

JULY, 1949

Commercial Refrigeration

AND AIR CONDITIONING



MERCHANDISING, SELLING, INSTALLATION AND MAINTENANCE OF
COMMERCIAL REFRIGERATION AND AIR CONDITIONING EQUIPMENT

How "FREON" ADVERTISING promotes the air conditioning and refrigeration industry

1. Increased knowledge by business executives of the advantages of air conditioning and industrial refrigeration is essential for continued expansion of the industry. Recognizing this fact, Kinetic Chemicals has for many years contributed to the industry's broad, general promotion by advertising to important selected audiences. The current "Freon" educational campaign in the architectural field is based on a survey of what architects want to know about air conditioning. Advertising in "Modern Industry" stresses the many and varied applications of refrigeration in manufacturing. In the food field, "Freon" is promoting business in the fast-growing frozen food industry.

2. In addition to this advertising aimed at specific fields, the comforts and advantages of air conditioning and refrigeration are explained periodically to more than 10,000,000 persons on the great "Cavalcade of America" radio program, and to more than 130,000 business men, through the pages of the "Du Pont Magazine."

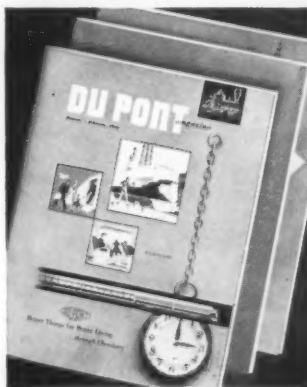
We feel that this promotion will prove of significant advantage to the air conditioning and refrigeration industry, and thus to Kinetic as well, since our interests are so closely identified with yours.

Kinetic Chemicals, Inc., Tenth and Market Sts.,
Wilmington 98, Del.



FREON *SAFE* REFRIGERANTS

"Freon" is Kinetic's registered trade mark for its fluorinated hydrocarbon refrigerants.



THE GREAT MULTIPLYING VALVE MYSTERY



A neat trick any refrigeration service engineer can perform in 10 seconds without practice.

TRICK:

Take one ALCO "TK" THERMO Valve. Suddenly—right on the job—it magically becomes three valves in one, ready to function in three different capacities!

SOLUTION =

You merely screw one of these two little discharge tubes into the outlet, and Presto!—you've changed the capacity like this:

VARIATIONS	NOMINAL CAPACITY IN TONS	
	"Freon-12"	Methyl Chloride
1. Without tube	1.15	2.30
2. With "O" tube	.50	1.00
3. With "OO" tube	.25	.52

Only one valve instead of three to carry in stock and to the job—a big saving in inventory, time and trouble! Ask your nearby wholesaler to let you try this ALCO magic today!

"TK" three-in-one THERMO VALVES



Designers and Manufacturers
of Thermostatic Expansion
Valves; Evaporator Pressure
Regulators; Solenoid Valves;
Float Valves; Float Switches.

3796

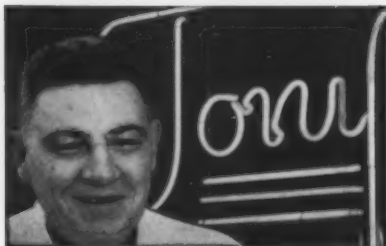
ALCO VALVE CO.

843 KINGSLAND AVE. • ST. LOUIS 5, MO.

BEER FLOWS FAST AT 5¢ A GLASS...



TED INMAN, popular and busy bartender at Tony's Westown Bar, 7645 Fenkell, Detroit, Michigan, says, "Since we started to sell nickel beer our volume has jumped plenty, but Temprite has never once let us down."



TONY PALOMBO, who opened his neighborhood tavern in 1935 with a Temprite Cooler, says, "When our customers start crowding the bar, our good old Temprite keeps just as cool as a cucumber. Every glass of beer is perfect, right down to the bottom of the barrel."

... yet every glass is cooled to perfection with **TEMPRITE**

One of the most delicate of all beverages is beer. Careful handling from the brewer's kettle to the tavern tap is a must.

If beer is too warm, the foam runs wild and profits run down the drain.

If beer is too cold, the head is too thin and profits run down the customer.

Beer temperature must be right . . . from the beginning to the end of the keg . . . and that is why Temprite has long been standard equipment at the busiest bars. For no matter how heavy the demand, no matter how frequently the tap is opened during rush periods, Temprite-cooled beer is *right*. Every glass is cooled to perfection. Every glass has brilliancy, flavor and body. Every glass has a rich, creamy collar of the right depth.

It is for reasons like those above that refrigeration men everywhere are pushing trouble-free Temprite beer coolers for steady, substantial profits.

Drop us a card today for details.



8 TEMPRITE MODELS feature easy installation, all stainless steel coils.

Heavy duty model above will cool 2 kinds of beer plus soda and plain water at the same time.

TEMPRITE PRODUCTS CORP.

ESTABLISHED 1929



Originators of Instantaneous



Liquid Cooling Devices

41 PIQUETTE AVENUE

DETROIT 2, MICHIGAN

JULY, 1949

VOLUME 6, NO. 7

Commercial Refrigeration

AND AIR CONDITIONING

Established 1944 as
THE REFRIGERATION INDUSTRY

THIS MAGAZINE has no
official affiliation with ANY
group, society or association.

IRVING B. HEXTER
President

LESTER P. AURBACH
Vice President

THEODORE T. QUINN
Managing Editor

JAMES R. McCALLUM JR.
Editor

WARREN W. FARR
H. S. McCLOUD
Editorial Advisors

WILLIAM V. LINAS
Production Director

E. J. HEXTER
Circulation Director

Address communications to
COMMERCIAL REFRIGERATION
AND AIR CONDITIONING

1240 Ontario Street
Cleveland 13, Ohio
Phone: Tower 1-0264
Teletypewriter: CV-233

SALES OFFICES
CLEVELAND 13
HAROLD F. BEHM
1240 Ontario Street

NEW YORK 18
GEORGE M. BERNARD
19-25 W. 44th Street
Room 412

CHICAGO 1
L. L. OPPENHEIM
54 E. Lake Street
Room 1013

LOS ANGELES 14
FRED W. FRISSENFELDT
1250 Wilshire Boulevard
Room 403

THE COVER . . . How a well water air conditioning system which no longer functioned satisfactorily was converted into a direct expansion installation to cool this dining room and other dining areas in Cincinnati's Union Terminal is described in the story starting on page 44. Note the return air grills near the floor on the far wall.

IN THIS ISSUE

FEATURES

DISPLAY YOUR SERVICE.....	30
A TIMELY PROMOTION.....	32
IT'S A SALESMAN'S MARKET!.....	33
PORTRAIT OF A MODERN FROZEN FOOD WAREHOUSE.....	34
YOU CAN CURE EMPLOYEE TURNOVER.....	36
MODERN MARINE REFRIGERATION.....	40
Part 2 of a two-part article	
WHEN WELL WATER WON'T WORK.....	44

DEPARTMENTS

About People	42
BTU'S	29
Contractor News	43
Here's How	83
New Products	61
Opportunities	87
Over the Counter.....	76
Practical Refrigeration Applications Manual.....	79
Refrigeration Industry News.....	47
Useful Literature	58
Index to Advertisers.....	88

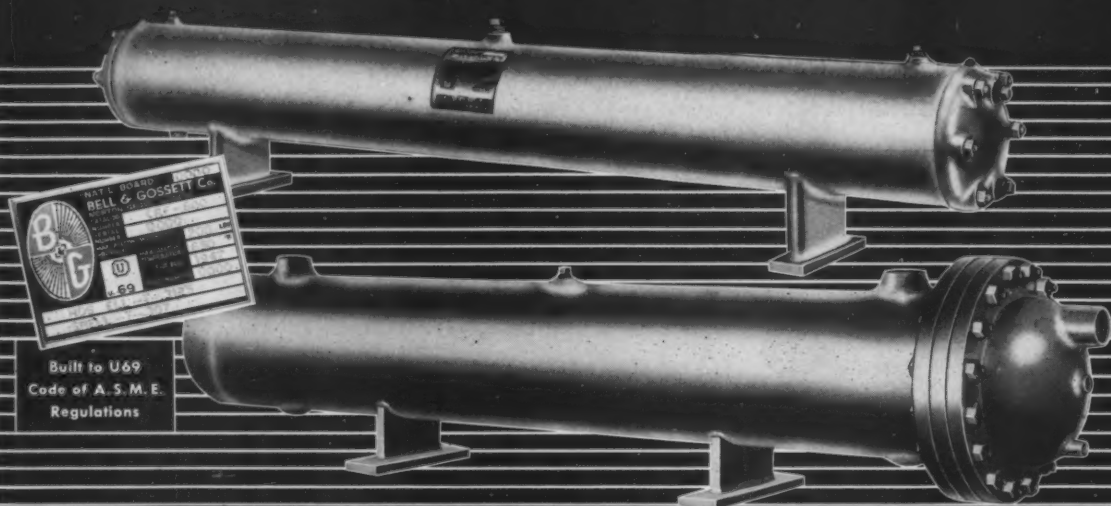


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Acceptance under the Act of June 3, 1934, at Milwaukee, Wisconsin, authorized March 26, 1947.

Refrigeration Equipment



B & G CENTRIFUGAL PUMPS
These pumps will satisfy your closest appraisal. Made in a wide range of capacities with open and enclosed impellers. Illustrated are Series 1522 and 1531 Pumps, featuring a Mechanical Seal which eliminates stuffing box drip. Write for engineering data—you'll appreciate the outstanding design and sturdy construction of B & G Centrifugal Pumps.

Even casual examination will reveal why B & G Refrigeration Equipment is meeting the approval of the most critical engineers and operating men. Here's new and better design—sound construction—painstaking workmanship—all combined in units of peak efficiency and long-lived dependability.

Tube sheets, for example, are serrated—assuring leak-proof operation. The ingenious design of B & G Evaporators permits uninterrupted vapor and oil flow—prevents oil-trapping in the head passes. Many other refinements reflect the skill developed in over a quarter of a century in building fine heat transfer equipment.

B & G Refrigeration Equipment is a warranty of top performance—use it on your next job.

SEND FOR NEW CATALOGS

B & G Refrigeration Equipment is described and illustrated in these two catalogs. Complete engineering data is given, together with simplified selection procedures. Your copies will be sent upon request.



Hydro-Flo*

REFRIGERATION EQUIPMENT

BELL & GOSSETT COMPANY

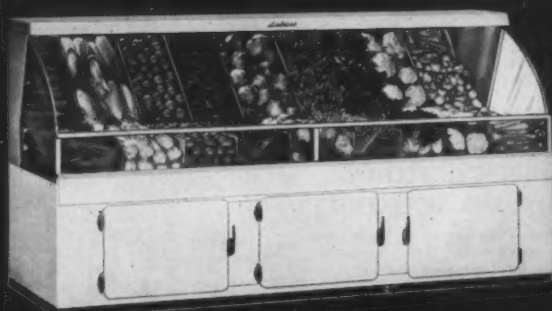
Dept. RBB-45, Morton Grove, Ill.

*REG. U. S. PAT. OFF.

Have you been overlooking basic facts in selling McCray Koldflos?



FOR THE DAIRY DEPARTMENT—McCray's newest Multiple-Deck, Self-Service, Dairy Display Case—each 6-foot section installed together gives continuous display.



FOR THE PRODUCE DEPARTMENT—McCray's newest Double-Duty, Self-Service, Continuous Display Case—10-foot sections installed together...engineered to cut store overhead costs.

● Too often, we take for granted the basic features of the product we sell even though they may be superior to competition. We love to tell our customers about "exclusives."

When you sell McCray Koldflo refrigeration equipment, you have many exclusive features to talk about. But remember, a prospective customer may have to be sold on the need for the best equipment you offer. There are many things he may not know about *modern* refrigeration equipment.

In the complete McCray Koldflo line, you have commercial refrigeration at its best. You can count on McCray's 59 years of leadership in this field to build confidence. And right now, you have the backing of the most effective type of advertising directed to your customers through the trade publications they read.

Talk exclusives—McCray Koldflo has 'em! But talk fundamentals, too. You can get the *full* story on McCray Koldflo by clipping and *mailing the coupon below*. Do this—today!

THE BEST IN
LOW-COST REFRIGERATION

McCray

K O L D F L O

McCray Refrigerator Company,
996 McCray Court, Kendallville, Indiana.

Please send me information on the complete line of McCray Koldflo commercial refrigeration equipment.

NAME

ADDRESS

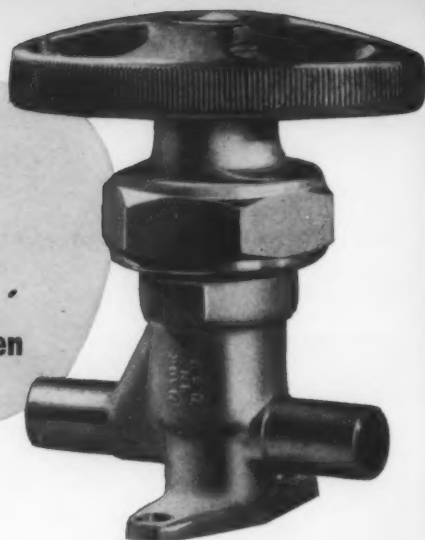
CITY ZONE STATE

HENRY

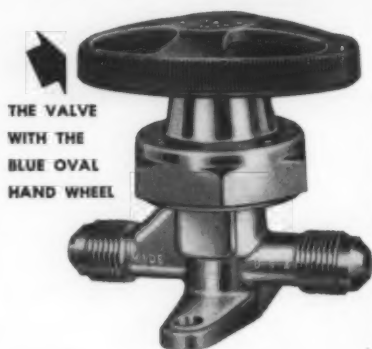
**BALANCED-ACTION
DIAPHRAGM
PACKLESS VALVES**

Still the Best Buy...

**and First Choice of Contractors and Servicemen
Because of these Field-Proven Features**



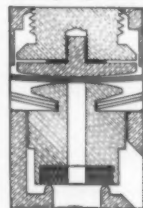
ANNOUNCING



THE VALVE
WITH THE
BLUE OVAL
HAND WHEEL

New **BLUE BANTAM DIAPHRAGM PACKLESS VALVE** LOWER in Height and LOWER in Price

It contains all the field proven advantages such as Balanced-Action, two-piece upper stem, four laminated diaphragms of dissimilar metals, positive spring action, long-life composition seat disc and easy grip hand wheel.

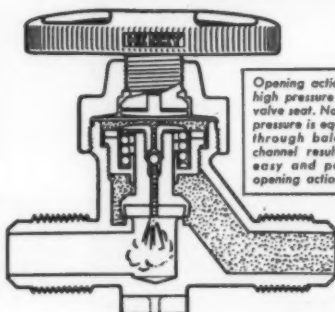


Size Range: $\frac{1}{4}$ " through $\frac{1}{2}$ " O.D.

Note two-piece upper stem and positive seal between balancing channel and bottom diaphragm while valve is in closed position.

POSITIVE OPERATION

- A Balanced-Action valve is non-directional.
- It cannot stick shut regardless of pressure differential above or below seat.



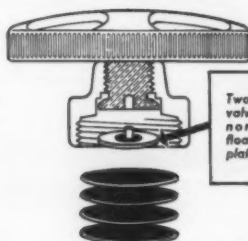
Opening action with high pressure above valve seat. Note how pressure is equalized through balancing channel resulting in easy and positive opening action.

- Valve will operate even if a high vacuum exists below the seat and there is a high pressure above the seat. This condition is frequently encountered when pumping down or evacuating a part of a system.

TWO-PIECE UPPER VALVE STEM

For Longer Diaphragm Life

The lower section of the two-piece upper valve stem is a non-rotating floating bearing plate which minimizes torsional wear and strain on diaphragms.

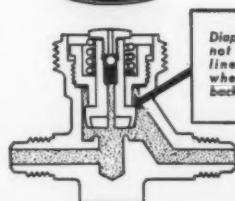


Two-piece upper valve stem has non-rotating floating bearing plate.

EASY DIAPHRAGM INSPECTION AND REPLACEMENT

When valve is in full open position, lower stem back seats on spring cage. Spring tensioned ball check seals off balancing channel with valve chamber under line pressure permitting access to diaphragms after bonnet is removed.

Complete Size Range for $\frac{1}{4}$ " through $1\frac{1}{4}$ " O. D. copper tubing



Diaphragms are not subject to line pressure when valve is back-seated.

Valves, Driers, Strainers, Control Devices
and Accessories for Refrigeration
and Air Conditioning and
Industrial Applications.



SEE YOUR WHOLESALER

HENRY VALVE CO.

Melrose Park, Ill. (Chicago Suburb)
Cable: HEVALCO, MELROSE PARK, ILLINOIS

IT'S HERE!

(FOR THE FIFTH TIME IN 5 MONTHS PAR ANNOUNCES)
A NEW SERIES OF CONDENSING UNIT MODELS

The **ONLY SEALED UNIT** Designed
For Distribution Through Refrigeration
Equipment Wholesalers

PAR PRESENTS PARMETIC



We're proud to bring you for the first time in refrigeration history an exclusive wholesaler sealed unit with all the headaches removed. For example, take field servicing. PARMETIC'S three thoroughly field-tested Models, PM-1 (1/6 H.P.), PM-2 (1/4 H.P.) and PM-3 (1/3 H.P.) high and low temperature, can be quickly checked, disassembled and repaired on location without replacing the entire unit. Many other exclusive features, too, make PARMETIC the first sealed unit ideally suited for wholesaler distribution since it gives customers the kind of trouble-free performance so typical with the PAR line.

IF YOU'RE A REFRIGERATION EQUIPMENT WHOLESALER, GET IN TOUCH WITH US AT ONCE. WRITE, WIRE OR PHONE FOR COMPLETE DETAILS ON THE HOTTEST ITEM TO HIT THE INDUSTRY IN 10 YEARS.

BY COMPARISON—YOU'LL BUY PAR

Only PARMETIC Gives You These Features...

- Designed for distribution through Refrigeration Equipment Wholesalers.
- Easily serviced in the field.
- Capacitor motors (starts under all load conditions).
- Fan cooled condenser.
- Large Receiver Capacity (operates on expansion valve or capillary tube).
- Internal spring mounted (vibrationless—silent).
- Compact overall dimensions.
- Thoroughly field tested.
- Models for low temperature as well as high temperature applications.
- There's NO unit like PARMETIC



PAR AIR
COMPRESSORS



PAR
REFRIGERATION
COMPRESSORS



WRAP-O-MATIC
CANDY & COOKIE
WRAPPING
MACHINES

LYNCH

CORPORATION

PAR COMPRESSOR DIVISION

TOLEDO, OHIO



MORPAC
PAPER PACKAGING
MACHINES



MORPAC
BUTTER & OLEO
PACKAGING
MACHINES



GLASS FORMING
MACHINES

No. 1 Insulation value for all refrigeration use . . .



the reasons . . . **LOW THERMAL CONDUCTIVITY**
... MOISTURE-RESISTANCE
... PROVEN LONG LIFE



On cold lines—in cold rooms—Rock Cork*, the No. 1 refrigeration insulation, gives years of trouble-free service. Basically mineral in composition, it stays sanitary and odorless, is immune to vermin, is moisture-resistant, and will not support mold growth. It safeguards even the most sensitive food products because it is free from offensive odors.

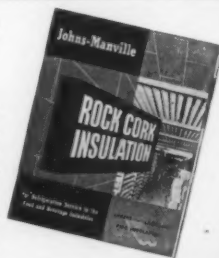
Rock Cork is available in sheet, lagging and pipe insulation form . . . in all standard sizes and thicknesses. The pipe insulation is protected with an asphalt saturated asbestos felt which reduces the need for seam filling and speeds installation.

Skilled applicators assure best performance
 —remember an insulation is only as good as the

man who applies it. To assure correct application and to obtain the highest dividends from your insulation investment, have an experienced Johns-Manville insulation applicator engineer and apply your job.

New Folder gives complete data

Write for folder IN-122A. Contains property tables and other useful information about Rock Cork Insulation. Johns-Manville, Box 290, New York 16, N.Y.



*Reg. U. S. Pat. Off.

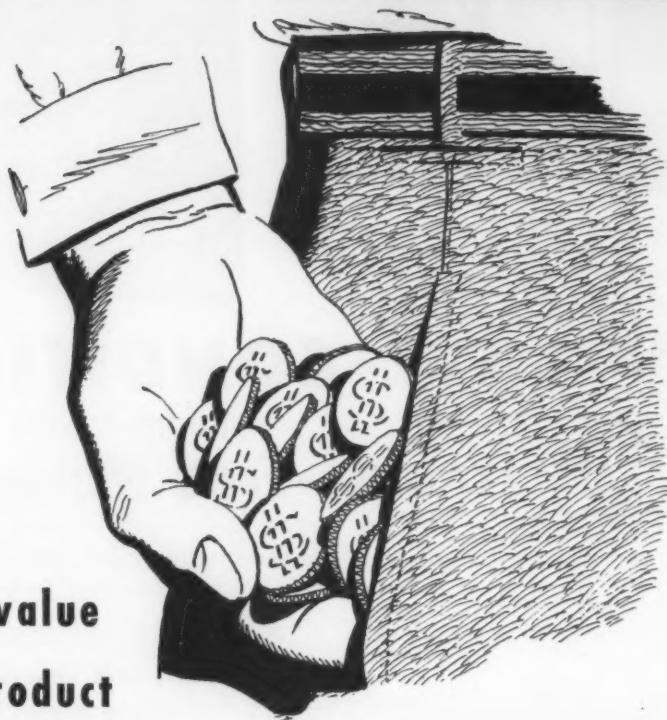


Johns-Manville

ROCK CORK

REFRIGERATION INSULATION

demand **DETROIT CERTIFIED VALVES and CONTROLS**



**Extra value
in the product**

means extra profits in your pocket

You get the advantages of a lot of extras when you use **DETROIT** Certified Valves and Controls: extra ease and flexibility in ordering—**DETROIT** has the most complete line of valves and controls and the largest distributing organization in the field. Extra dependability for every installation—**DETROIT** Certified Valves and Controls are designed and built to deliver many years of top performance.

In addition, **DETROIT** backs you up solidly by certifying every control—extra protection for you, your work and your reputation. On your next job get all of these extras; install **DETROIT** Certified Valves and Controls.

No. 673 Thermostatic Expansion Valve

For use on commercial refrigeration systems. Double bellows construction allows a broad range of superheat settings which remain constant under varying conditions. Gas charged for motor overload protection and quick response. "The Standard of the Industry." Write for Bulletin No. 82.



DETROIT

LUBRICATOR COMPANY

5900 TRUMBULL AVE., DETROIT 8, MICHIGAN
Division of **AMERICAN RADIATOR & Standard Sanitary Corporation**

CANADIAN REPRESENTATIVE: RAILWAY & ENGINEERING SPECIALTIES, LTD. — MONTREAL, TORONTO, WINNIPEG



DETROIT HEATING AND REFRIGERATION CONTROLS •
ENGINE SAFETY CONTROLS • FLOAT VALVES AND OIL
BURNER EQUIPMENT • **DETROIT** EXPANSION VALVES
AND REFRIGERATION ACCESSORIES • STATIONARY
AND LOCOMOTIVE LUBRICATORS

Serving home and industry AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILER • ROSS HEATER • TONAWANDA IRON

and AIR CONDITIONING • JULY, 1949



Open and closed view of Allen-Bradley Special Refrigeration Control Unit consisting of Bulletin 709 Solenoid Starter, Bulletin 836 High Pressure Cutout, Bulletin 837 Thermostat with adjustable knob, and a Bulletin 600 Manual Starting Switch.



Typhoon Prop-R-Temp self-contained air-conditioner unit showing Allen-Bradley Special Refrigeration Control Unit.

TYPHOON



AIR-CONDITIONERS equipped with Trouble-Free Motor Controls



Bulletin 709, Size 1 Solenoid Starter. Compact, simple, and trouble-free. Ample wiring space.

WHY ARE ALLEN-BRADLEY STARTERS SO POPULAR for air-conditioning service? . . . Because they are trouble-free. Only one moving part. No pivots, pins, or bearings to corrode or stick . . . no jumpers to break. You install them . . . and forget them!

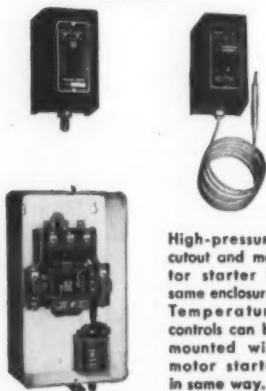
NO CONTACT MAINTENANCE. Allen-Bradley patented silver alloy contacts never need cleaning, filing, or dressing.

DEPENDABLE OVERLOAD RELAYS. Allen-Bradley thermal relays are accurate and dependable even after long service.

The A-B trademark stands for millions of trouble-free operations. Allen-Bradley Co., 1340 S. Second St., Milwaukee 4, Wisconsin.

ALLEN-BRADLEY AIR-CONDITIONING AND REFRIGERATION CONTROLS

PRESSURE AND TEMPERATURE CONTROLS



High-pressure cutout and motor starter in same enclosure. Temperature controls can be mounted with motor starter in same way.

MANUAL STARTER



AUTOMATIC STARTER



COMBINATION STARTER



HEAVY COMPRESSION STARTER



ALLEN-BRADLEY

SOLENOID MOTOR CONTROL





You can cut **REFRIGERATION COSTS**

When Handling
CANS, CRATES, KEGS

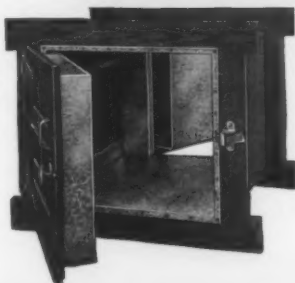
CAN AND CRATE PASSING DOOR

The Auto Close doors swing open readily and close automatically when the cold storage doors open. This checks the inrush of warm air and saves refrigeration. The door can be fitted into a conveyor system or used with its own roller conveyor.



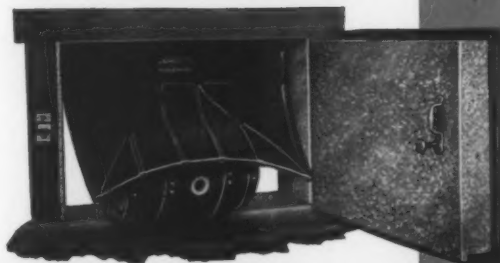
ICE CREAM CAN PASSING VESTIBULE

The vestibule is equipped with a cold storage door at each end. Maximum loss of cold air is limited to the volume of the vestibule because either door is always closed whether loading or unloading. Vestibule holds six to nine cans in various arrangements.



KEG PASSING DOOR

A flexible light weight insulating curtain of moulded material prevents the loss of cold air when the door is open. The movement of the keg lifts the curtain without shocks or abrasion as it passes. It immediately drops back in place and air movement is cut off.



These Jamison-Built Doors permit the speedy passing of cans, crates, boxes, packages or kegs in and out of the refrigerated space. Each of the methods illustrated is particularly well suited to the temperatures and type of container. The loss of cold air and the entry of warm air during the time containers are moved in and out of refrigerated storage rooms is held to a minimum. The resulting savings in refrigeration costs can be substantial.

Standard types of Jamison-Built doors are available for a wide range of temperatures and applications. For special requirements doors can be built to your specification regardless of size, character or duty.

Write for new catalog that gives helpful information on cold storage door selection.



Jamison Cold Storage Door Co., Hagerstown, Maryland

The Oldest and Largest Builder of Cold Storage Doors in the World

ANSUL OIL

THE ALL-TEMPERATURE REFRIGERATION OIL

**Recommended for air conditioning
and refrigeration systems using
standard refrigerants.**

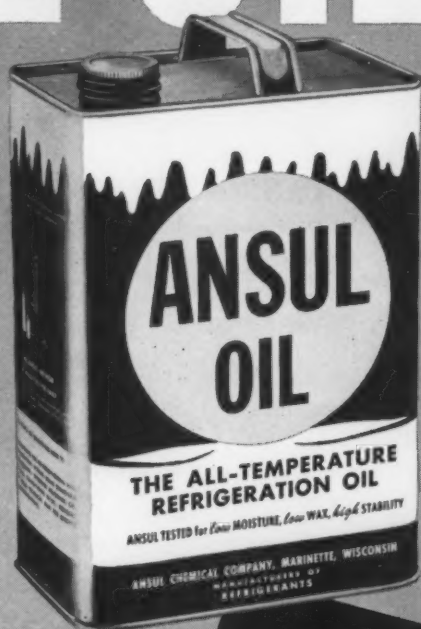
ANSUL OIL is an ALL-Temperature Refrigeration Oil which conforms to the rigid wax-free specifications established by Research. It will not separate wax when mixed with a refrigerant (under specified conditions) and subjected to temperatures as low as SEVENTY DEGREES BELOW ZERO (Fahrenheit).

ANSUL OIL has been machine tested for lubrication and wax-free characteristics in both high and low temperature installations. It is absolutely uniform . . . maintains high stability and has a low oxidation rate. It has proved suitable for ALL refrigerating systems using any of the standard refrigerants.

Ansul Research was first to recognize the problems resulting from low-temperature wax separation in oil-refrigerant mixtures. It realized the critical need for an oil which would not only lubricate and protect moving parts but would also eliminate the persistent troubles which were traced to wax-separation from oil-refrigerant mixtures.



REG. U. S. PAT. OFF.



**ANSUL TESTED
FOR**

✓ **LOW MOISTURE**
✓ **LOW WAX**
✓ **HIGH STABILITY**

ANSUL 150 OIL—
The All-Temperature Refrigeration Oil — is sold by leading refrigeration wholesalers everywhere. (If you require a higher viscosity oil ask for ANSUL 300.)

ANSUL CHEMICAL COMPANY
REFRIGERATION DIVISION, MARINETTE, WISCONSIN
ANSUL SULFUR DIOXIDE, ANSUL METHYL CHLORIDE, ANSUL OIL, KINETIC'S "FREONS"

HERE'S A HANDY GUIDE

New Catalog No. 204-1



To Compressor and Condensing Unit Selection

This big illustrated 60-page Catalog is ready for you NOW. Contains full specifications, dimensions and detailed data on the complete Mills line of air-cooled, water-cooled, and combination air- and water-cooled units. Be sure to get this current 1949 Catalog showing the full line of Mills Compressors and Condensing Units for cooling, refrigerating and air-conditioning service. A copy of Catalog 204-1 will be sent promptly on request.

MILLS INDUSTRIES, Incorporated
4100 Fullerton Ave., Chicago 39, Illinois



**MAIL THIS
COUPON
TODAY**

MILLS INDUSTRIES, Inc., 4100 Fullerton Ave., Chicago, 39, Illinois
Gentlemen—Please send a copy of new Catalog 204-1 to

NAME

ADDRESS

CITY ZONE STATE



condensing units and

● **SERVICE ENGINEERS, DEALERS...**

MORE SERVICE AND PARTS BUSINESS.

MORE REPLACEMENT UNIT BUSINESS.

● **MANUFACTURERS, DISTRIBUTORS, CONTRACTORS...**

NATIONWIDE PARTS COVERAGE.

SIMPLIFIED REPLACEMENT POLICY.

52
AT
G-E PARTS DEPOTS
ALL OVER THE U.S.

If you're in the commercial refrigeration and air conditioning business, the G-E Parts Depot System can help you to greater profits. With 52 G-E Parts Depots in operation throughout the country, distributors, dealers and service engineers can get genuine G-E units and parts quickly and easily.

Manufacturers and contractors can expect quick service for the G-E units they use—anywhere in the country.

Replacements—during the warranty period and after—are supplied by these 52 G-E Parts Depots. That means quick service, less red tape. It means more service business for service engineers and dealers...and better business—national business—for manufacturers and contractors when they use famous top-quality G-E condensing units.



Service Engineers and Dealers! More than a million G-E commercial-type condensing units have been built! And more are being built and sold every day. With volume like that, there's plenty of service and parts business available. You can get your share. Your nearest G-E Parts Depot is ready to supply you with the genuine G-E replacement parts you'll need to service G-E units. He'll sell you those famous General Electric top-quality condensing units, too. They're ideal for the big replacement market. And don't forget—G. E.'s policy cuts red tape, saves you time and trouble.

Manufacturers! Large or small, you can sell your products equipped with General Electric condensing units

on a *national scale*, thanks to the new G-E Parts Depot System. When you use G-E open or sealed condensing units, you get nationwide parts availability. G-E Parts Depots—strategically located throughout the country—make available all condensing unit parts for replacement *during the warranty period and after*, with a minimum of red tape. The Depots take care of all details. No bother for you...no parts inventories needed by your sales outlets. You are assured of reliable service anywhere in the U. S. . . . because service engineers and dealers can always get G-E parts and units easily, quickly. Service like this makes for satisfied customers—who come back to you next time they need equipment.

GENERAL



ELECTRIC

FAST!

YOU NEED THEM

★ Salt Lake City ★ Denver ★ Phoenix ★ El Paso ★ San Antonio ★ Dallas ★ Fort Worth ★ Oklahoma City ★ Muskogee ★ Tulsa ★ Wichita ★ Topeka ★ St. Joseph ★ Kansas City ★ St. Louis ★ Evansville ★ Indianapolis ★ Chicago ★ Rockford ★ Detroit ★ Pittsburgh ★ Philadelphia ★ New York ★ Brooklyn ★ White Plains ★ Hartford ★ Albany ★ Syracuse ★ Rochester ★ Portland ★ Boston ★ Minneapolis ★ Omaha ★ St. Peter ★ St. Paul ★ Madison ★ Milwaukee ★ Cincinnati ★ Cleveland ★ Columbus ★ Atlanta ★ Birmingham ★ Memphis ★ Nashville ★ Knoxville ★ Raleigh ★ Richmond ★ Washington ★ Baltimore

NOTE: ...

Free

- General Electric open-type condensing units from 1/4 to 10 hp.
- Replacement parts for all G-E commercial-type condensing units from 1/4 to 75 hp.
- G-E sealed-type condensing units for replacements.

Free
CONDENSED
CATALOGS

MAIL THIS COUPON TODAY!

I am a ☐ service engineer
☐ dealer
☐ manufacturer
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Company_____

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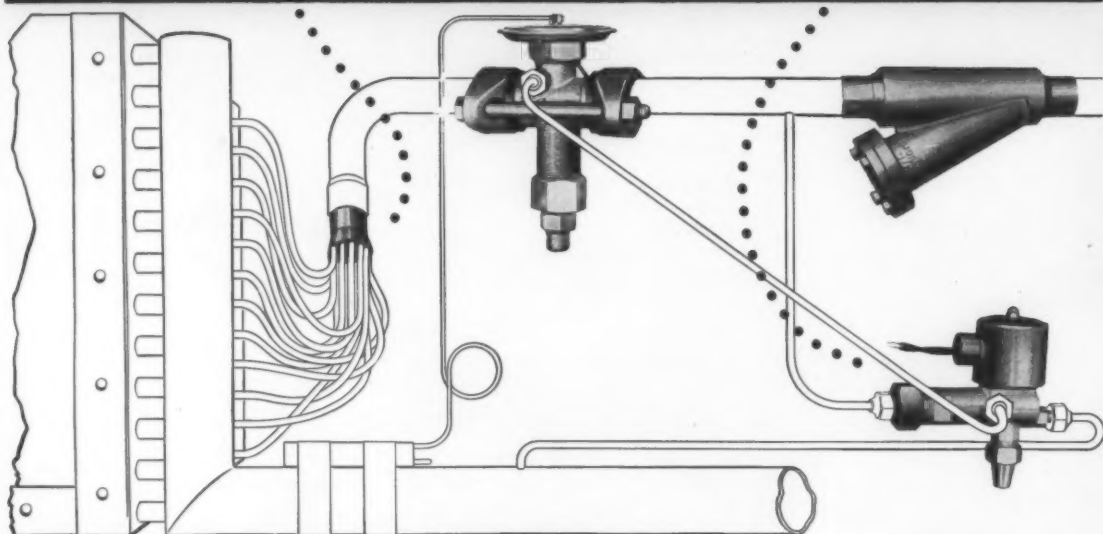
SPORLAN AIR-CONDITIONING CONTROLS

combine

EFFICIENCY

PEAK PERFORMANCE

ECONOMY



REFRIGERANT DISTRIBUTORS

- Economical to Install
- Assures Equal Distribution
- Capacity Balanced to Load by Means of Interchangeable Nozzle
- Available as Separate Device to Permit Use of Standard Valves
- Provides Maximum Coil Efficiency

THERMOSTATIC EXPANSION VALVES

- Flare, Sweat or Flange Connections
 - All Parts Accessible for Cleaning or Inspection
 - From 1/2 to 50 Tons Freon
- The Only Thermostatic Expansion Valves with Selective Charges*

SOLENOID PILOT CONTROL

- Tighter Closing than Ordinary Solenoid Valves
- Economical to Install
- One Size Fits All Jobs
- Costs No More than a Ten Ton Solenoid Valve Regardless of Load
- Positive Liquid Line Shutoff

STRAINERS

- A Complete Line for All Purposes

SPORLAN

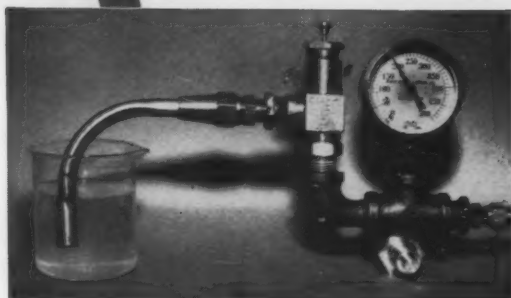


SPORLAN VALVE COMPANY

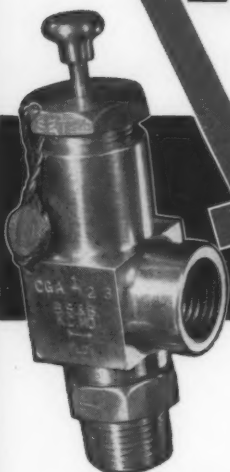
7525 SUSSEX AVENUE • ST. LOUIS 17, MISSOURI

Even after "repeated popping"...

**HOLDS
FREON
WITHOUT
LEAKING!**



Unretouched photo of BS&B Freon Relief Valve during bubble test. No trace of leakage at 200 lbs. Freon pressure (valve setting 225 lbs.).



THE NEW **BS&B** FREON RELIEF VALVE

You've needed such a relief valve for a long time. Now the precision craftsmen of Black, Sivalls & Bryson are producing it... in large quantities!

Relieves refrigeration systems from pressure rises... re-sets tightly to prevent loss of expensive Freon. Again and again the BS&B Freon Relief Valve has been "popped". Even after as many as 200 times, no trace of leakage is evident.

This valve will function properly with SAFETY HEAD rupture disc device on outlet. (See ASME Unfired Pressure Vessel Code, Par. U10-b.)

This BS&B Valve is a quality product... engineered to close tolerances, precise in its action. Ideal for installation on medium and large systems. Approved by City of Chicago Refrigeration Inspection Dept. for installation in that city, with or without SAFETY HEAD. Furnished with 1/4, 3/8 and 1/2-inch pipe thread inlet.

Manufacturers, Jobbers—
attractive discounts are provided for large quantity purchases. Write, wire today.



Special Products Division, Section FV-11
BLACK, SIVALLS & BRYSON, INC.
Power and Light Building, Kansas City 6, Mo.

- ☐ Send full details of the new BS&B Freon Relief Valve.
☐ Send quantity discount information.
☐ Please have Sales Engineer call.
I am a ☐ Equip. Manufacturer ☐ Jobber
☐ Distributor ☐ Supply Company

Name.....

Firm.....

Street.....

City..... Zone.... State.....



CHASE COPPER SOLDER-JOINT FITTING ADAPTERS

(MADE OF TELLURIUM COPPER)

... Can
take
wrench
stresses!

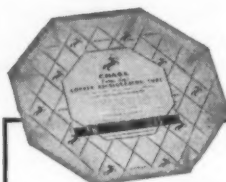


NO need to fear pulling a wrench on Chase Copper Solder-Joint Fitting Adapters. They are designed for greater strength and resistance to deformation to withstand the stresses imparted by wrenches. Chase Adapters are also made of Tellurium* Copper, a special patented Chase alloy that machines into uniform, clean-cut threads—for tight joints.

In addition, every Chase Copper Tube Adapter is made with SO₂ threads in sizes through 1" nominal. And all Chase *Wrought Copper* Fittings are *made to fit* the tube accurately—and are as *sound* and *non-porous* as the tube itself.

Ask your distributor for Chase Copper Refrigerator Tube and Fittings. Both are made to the same high standard of quality.

*U. S. Pat. No. 2,027,807



Chase Copper Refrigerator Service Tube in sizes 1/8" to 3/8" diameter is packed in this *extra handy* package that prevents two-layer coil of tube from shifting. Tube is *extra soft* for easy working, and packaged in 50' standard lengths, with special sealed ends.

Chase



WATERBURY 20 CONNECTICUT

SUBSIDIARY OF KENNECOTT COPPER CORPORATION

the Nation's Headquarters for
BRASS & COPPER

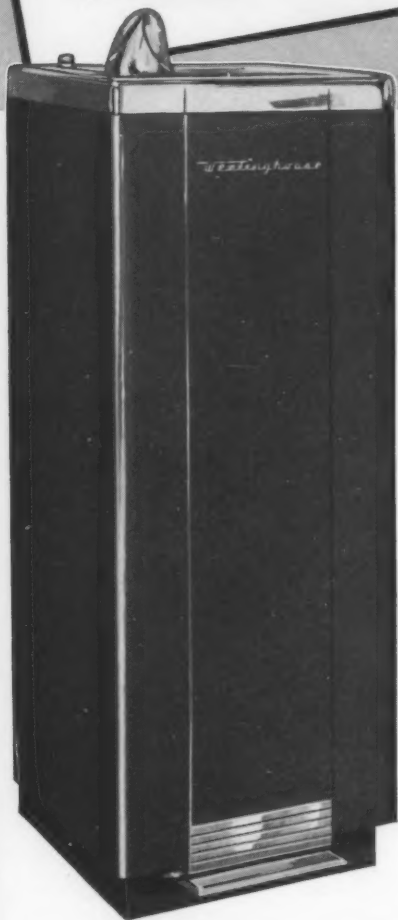
THIS IS THE CHASE NETWORK ... handiest way to buy brass

ALBANY: ATLANTA BALTIMORE BOSTON CHICAGO CINCINNATI CLEVELAND DALLAS DETROIT HOUSTON INDIANAPOLIS KANSAS CITY, MO. LOS ANGELES MILWAUKEE MINNEAPOLIS NEWARK NEW ORLEANS NEW YORK PHILADELPHIA PITTSBURGH PROVIDENCE ROCHESTER ST. LOUIS SAN FRANCISCO SEATTLE WATERBURY (Sales Office Only)

**YOU CAN BE SURE
..IF IT'S
Westinghouse**

**SELL THE LEADER...
SELL WESTINGHOUSE!**

**THE COOLER WITH THE
Stainless Steel Top**



*"of course,
it's electric"*

**NO CHIPPAGE PROBLEMS HERE
SANITARY... EASY TO CLEAN!**

Here's a one-piece, highly polished, stainless steel top. It's splashproof, sanitary, and easy to clean, chip-proof and built to last a lifetime... another reason why Westinghouse Water Coolers sell easier, make friends faster.

But that's just the beginning of the story. Here are some of the other advantages Westinghouse has to offer... Automatic Stream Height Regulator, convenient Foot Pedal Control, Anti-Squirt Bubbler, the Push Button Bubbler Kit*... all these PLUS the famous 5-Year Guarantee Plan on the Hermetically-Sealed System. Put them all together and you'll see why Westinghouse has the fastest selling Water Cooler line—the *Leader* line... a capacity and type for every need.

WESTINGHOUSE ELECTRIC CORPORATION
Appliance Division • Springfield 2, Mass.

*Available at slight additional cost

**FOR FURTHER INFORMATION CALL YOUR
WESTINGHOUSE DISTRIBUTOR OR MAIL
THE ATTACHED COUPON TO
WESTINGHOUSE ELECTRIC CORPORATION
SPRINGFIELD 2, MASS.**

**REQUEST FOR FURTHER
INFORMATION**

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Appliance Division • Springfield, Mass.
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BUILT RIGHT.. PRICED RIGHT.. AMAZINGLY FREE FROM SERVICE

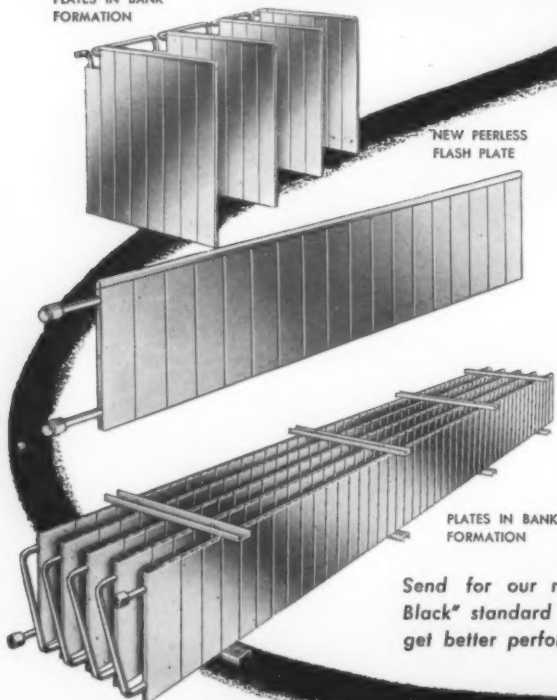
Peerless Flash Plates

LOW TEMPERATURES AT LOW COST

Insist on Peerless products. You'll find you get superior performance with every one.

"Peerless is Priceless in Quality."

PLATES IN BANK FORMATION



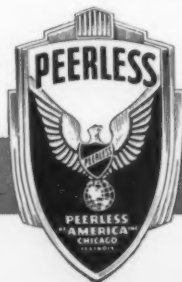
NEW PEERLESS FLASH PLATE

PLATES IN BANK FORMATION

● "Such popularity must be deserved," and it is in the case of PEERLESS FLASH PLATES! These units are delivering lower temperatures and faster freezing at lower operating and maintenance cost in locker plants and similar installations. Available in a wide range of sizes, either single or double face, they provide a flat aluminum refrigeration surface, handsome and durable. Each plate is packed with copper tubing, continuous to eliminate leaks, and bonded by the Peerless Wedge-Lock mechanical bond. Heat transfer rate is higher due to the aluminum and copper non-ferrous construction.

Send for our new price list on "Orange and Black" standard Flash Plates. See how you can get better performance for less.

PEERLESS OF AMERICA, INC.
2901 Lawrence Ave., Chicago 25, Illinois, U.S.A.



REMCO

MAKERS of the FAMOUS
"Cross-Flo" DRIER-FILTER

BRINGS YOU IMPROVED DRIER-FILTER PERFORMANCE

With these Two
Outstanding
Innovations

✓ Now on display
at Leading Wholesalers
Everywhere

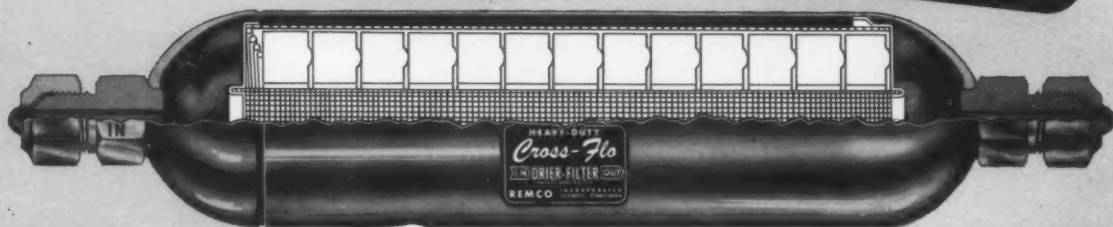
MOLDED DU-CAL DRIERITE AS THE IDEAL DRYING AGENT FOR *LIQUID LINE APPLICATION

Now "Cross-Flo" becomes even more efficient with the advent of MOLDED Du-Cal Drierite. Now the refrigerant flows 'across' and between these self-spacing discs which are guaranteed to remove and retain up to 20% of their weight in moisture even at refrigerant temperatures up to 150°F.—without breaking down, powdering, dusting, or allowing any pressure drop.

Capacities: 1, 2, 3 & 5 tons

Connection sizes: $\frac{1}{4}$ " thru $\frac{3}{4}$ " SAE
 $\frac{3}{8}$ " thru $\frac{1}{2}$ " O.D. SWT

*Equally efficient in any location in system



SPUN ENDS AS THE IDEAL LEAKPROOF & FOOLPROOF BODY DESIGN

PROVIDES INTEGRAL
SWEAT CONNECTIONS OR
Braze, Flare-end Con-
nections, as pictured above.



New Spun-end Copper jointless
body design eliminates leaks
and other troubles due to body
joint failures.

Furnished as standard with Flare nuts and seal bonnets.



(In $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ H. P. Capacity)

These are the ideal low-cost quality driers for original equipment and field applications.
Available in connection sizes of $\frac{1}{4}$ " to $\frac{3}{4}$ " SAE (with seal caps) and $\frac{3}{8}$ " to $\frac{1}{2}$ " O.D. SWT.

Note: BOTH THE "CROSS-FLO" & STANDARD-DUTY LINES ARE
ALSO AVAILABLE WITH SILICA GEL—for Lowside,
Suction Line, or Other Cold Locations

MOLDED DU-CAL DRIERITE
Also AVAILABLE IN REMCO'S
STANDARD-DUTY DRIERS

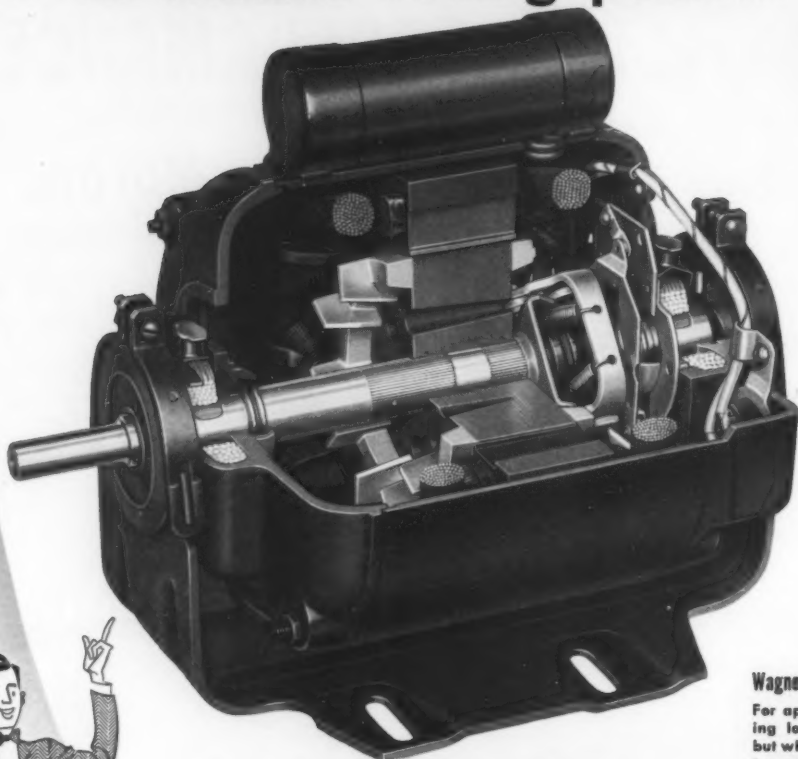
Literature & Prices Available on Request

West Coast Warehouse Stock at:
2103 So. San Pedro St.,
Los Angeles 11, Cal.

Export Department:
Matchler, Armstrong, Dossau
Ridgefield, N. J.

REMCO
INCORPORATED
ZELIENOPLE, PENNSYLVANIA

Give your product
an *Added* selling point...



Wagner Capacitor-start Motor

For applications where starting loads are fairly heavy, but which can be brought up to operating speed quickly.



choose a Wagner Motor

for long life, dependability and nationwide service

Many manufacturers have powered their machines and appliances with Wagner Motors because of their *proven* reputation for long life and dependability... and because they *know* the importance of being able to provide immediate motor service when needed.

You can add a real selling point to your product by choosing Wagner Motors, too, and you'll save time, money, and worry because:

1. Wagner Motors are backed by a liberal warranty.
2. They are available in a wide range of types and sizes for every application.

3. Improved engineering features assure long life and efficient operation.

4. They are immediately available from Wagner Branches in all principal cities.

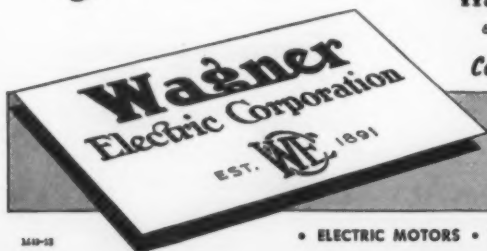
5. More than 450 Wagner Authorized Service Stations and Parts Distributors plus 25 Wagner-owned Service Branches provide on-the-spot service, replacement motors, or genuine repair parts.

Regardless of what your motor requirements may be, Wagner can furnish a motor to fit your need. Bulletins on the complete line of Wagner Motors will be sent on request.

Wagner Electric Corporation

6442 PLYMOUTH AVE., ST. LOUIS 14, MO., U. S. A.

Consult Wagner Engineers on all Electric Motor Problems



• ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES • AUTOMOTIVE BRAKE PRODUCTS •

Why not Profit from Experiences of others?



"Favorable experience has sold us on the value of using Frigidaire Parts—we have almost no call backs," says William Goeckel, Goeckel & Van Service Co., 301 Norfolk Ave., Buffalo, N. Y.

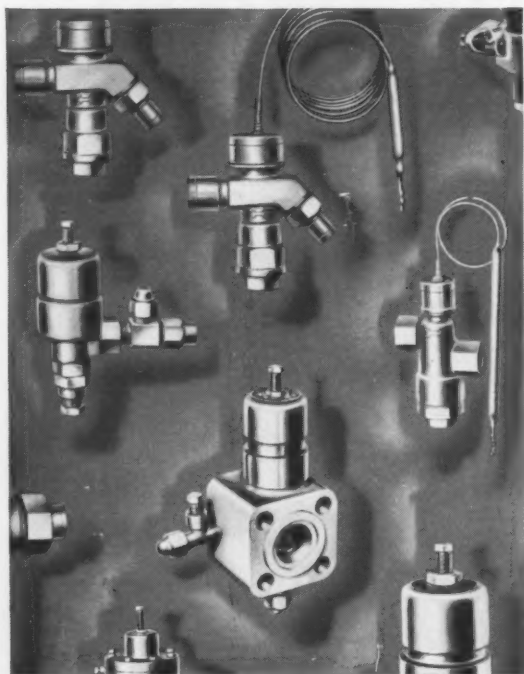


"We save a lot of time on overhauls by using genuine Frigidaire Parts, because they're made to fit perfectly," says L. P. Fowler, Arctic Refrigeration Co., N. 1905 Washington St., Spokane, Wash.



"Better service results from installing genuine Frigidaire Service Parts—they're really precision-built," says Boyd Neuhart, Neuhart Refrigeration Service, 1702 N. 11th St., Fort Smith, Ark.

Frigidaire Service Parts mean Good Business For You!



Frigidaire Refrigerant Control Valves cut job time—build good will—handle any control problem.

You'll find it pays three ways to use Frigidaire Precision-Built Valves for refrigerant control. They build customer satisfaction, because they're expertly engineered for dependable, accurate control. They save you time and money, because they're so quickly and easily installed. And, best of all, they handle any control problem, because there's a *complete* line of Frigidaire Valves to meet all your needs.

Frigidaire Thermostatic Expansion Valves include the famous Modulex series—17 models, handling from 3,000 to 48,000 Btu/hr. For larger installations, Frigidaire High-Capacity Thermostatic Expansion Valves are available in three models, ranging from 48,000 to 300,000 Btu/hr.

Frigidaire Automatic Expansion Valves are ideal for non-defrosting cooling units, ice cream cabinets, other low temperature applications—cover a range of 3,000 to 14,000 Btu/hr.

Frigidaire Cooling Unit Regulating Valves for accurate, efficient vapor control, include Evaporator Regulating Valves for forced air cooling units, Thermo Modulating Valves for thermostatic cooling control, Snap Action Valves for automatic defrosting, and Liquid Temperature Valves for liquid coolers.

• **FREE! Big new 1949**
• **Frigidaire Parts Catalog.**
• **Send for it today!**



FRIGIDAIRE
Parts and Accessories



and AIR CONDITIONING • JULY, 1949

FRIGIDAIRE DIVISION

General Motors Corporation
1383 Amelia Street, Dayton 1, Ohio

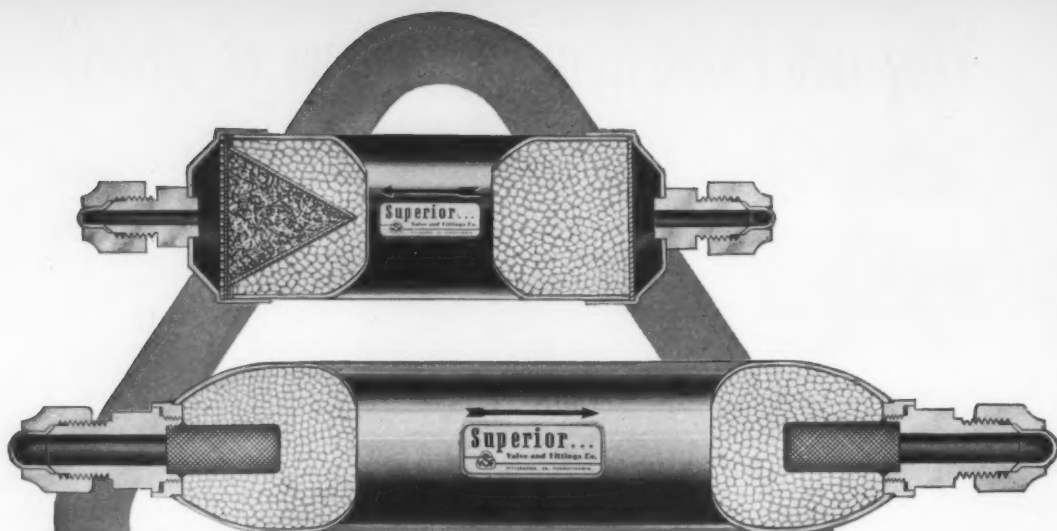
Please rush my free copy of your new 1949 parts catalog—
"Genuine Precision-Built Frigidaire Parts and Accessories."

Name.....

Firm Name.....

Address.....

City.....County.....State.....



A NEW Line of

SUPERIOR DRIERS

The DRIERS with the *Plus Features*

- ★ MODERN DESIGN
- ★ EFFICIENT OPERATION
- ★ REFILLABLE AND NON-REFILLABLE TYPES
- ★ ALL BRASS CONSTRUCTION



For complete details and specifications on the New Driers and other Superior products, ask your Wholesaler for a copy of our NEW Catalog R3.

(or a copy may be obtained by writing to us)

Superior Valve and Fittings Co.



1509 WEST LIBERTY AVE., PITTSBURGH 26, PENNA.
OFFICES IN PRINCIPAL CITIES STOCKS CHICAGO 16 LOS ANGELES 15 JOBBERS EVERYWHERE



Model 10-4000 is a self-contained, duct-type unit operating on Freon 12. Easy to install. An ideal unit where 10-ton nominal rating is necessary.

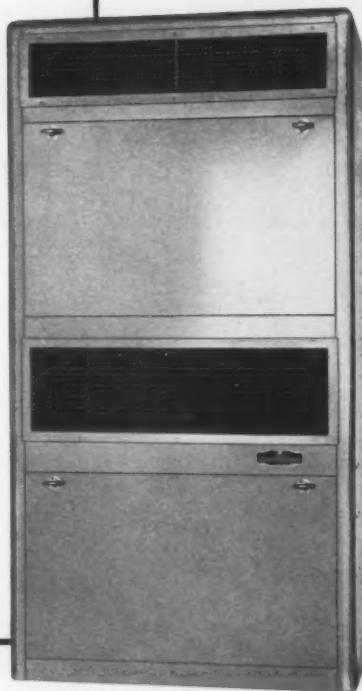
GR Air Conditioning is aimed to please your customers

Here's a line of air conditioning equipment that's easy to sell . . . easy because it combines the features your customers want . . . features they demand.

- Quiet performance . . . moderate operating speed
- Easy to install . . . easy to service
- Long life . . . low upkeep
- Top quality machine at competitive price
- Streamlined and good looking
- Sizes to fit all needs
- Backed by over thirty years in the field

All of which adds up to *More Cooling Per Dollar.*

Let us show you why General Refrigeration offers more to your customers . . . more to you — why it pays to handle the best. For full information on this top quality line, write Dept. RI-5 today.



This self-contained model is available in 3, 5 and 7½ horsepower sizes. Looks good anywhere. Year 'round use and ease of servicing make it very economical. Heavy-duty Lipman compressor insures long-life service.



GENERAL REFRIGERATION DIVISION

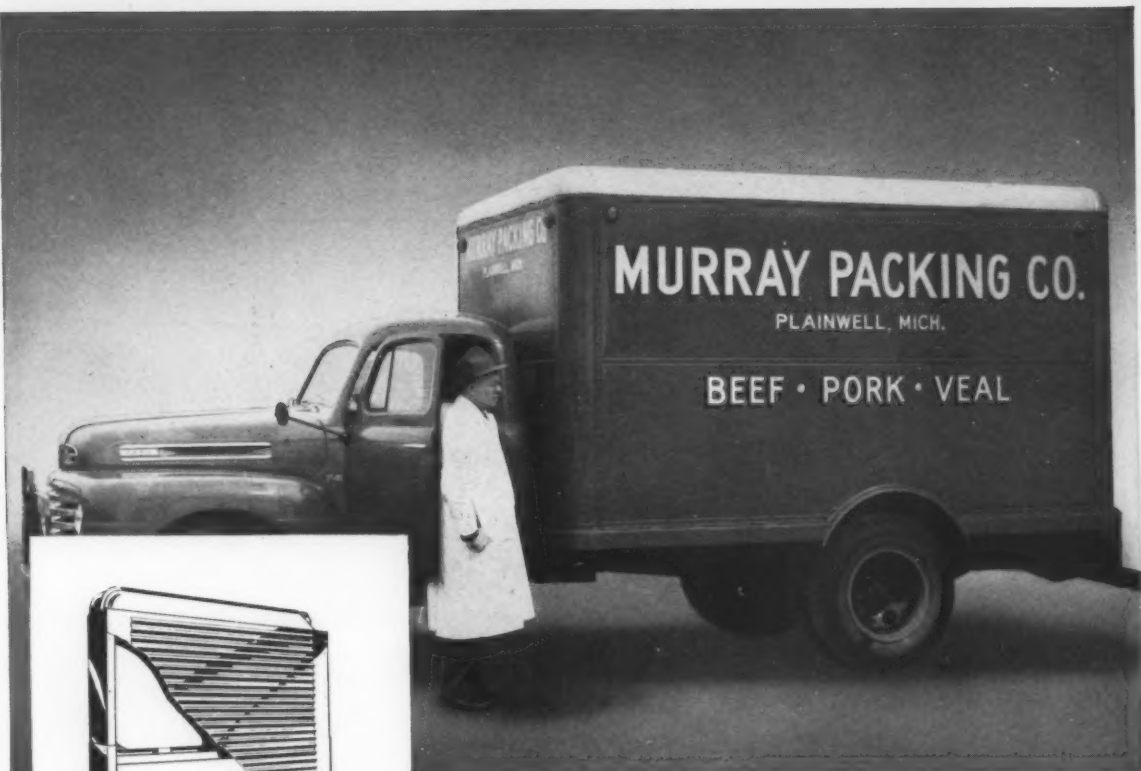


YATES-AMERICAN MACHINE CO.
Beloit, Wisconsin



Every GR unit is double tested. Compressors are first given a preliminary run-in test. Later, the assembled unit is tested under operating conditions with the refrigerant to be used.

KOLD-HOLD *Pakage* TRUCK UNITS



Prove a Profitable Investment

FOR MURRAY PACKING CO.

IN THE TRANSPORTATION OF MEAT without SPOILAGE

AS SIMPLE TO INSTALL

AS 1-2-3

1. Cut two holes in the floor of the truck for air intake and discharge. Dimensions and measurements come with the unit, as well as complete installation instructions.
2. Push the unit into position over the holes and bolt securely into place. This is all the installation required.
3. Plug into 110V outlet. Twenty foot rubber covered cord is supplied with the unit. If desired, a connection box may be installed outside the body for greater convenience.

Small fleet operators can now protect their perishable foods in transit easily and economically with the new Kold-Hold Pakaged Truck Unit. This is a compact, self-contained refrigeration system that you can quickly install in your own truck. It is a complete assembly of all units necessary to refrigerate a properly insulated truck body to a temperature of 45° to 50° for a day's run.

Paul H. Murray of Plainwell, Michigan has this to say about the Pakaged Units he installed in two of his trucks: "We find absolutely no deterioration of meat during transit. We have made savings by the use of the Kold-Hold Package Unit because our meat products reach the dealer in top condition. We are mighty well pleased with the results."

The Kold-Hold Package Unit will give you dependable, low-cost refrigeration, will help you win more customers and increase your profits. Send today for complete information.

KOLD-HOLD

Jobbers in Principal Cities

PROCESSING **TRANSPORTATION**
protects every step of the way

STORAGE

KOLD-HOLD MANUFACTURING COMPANY • 503 E. HAZEL STREET, LANSING 4, MICHIGAN

Curtis Dealers Appreciate the Extra Profits in the CURTIS Line



Beautifully finished units like this—3 and 5 ton.
Central or remote type—7½, 10 and 15 tons.

Here's Why—

Curtis slow-speed compressor equipment with TIMKEN roller bearings and the famous Curtis designed "Centro-Ring" pressure oiling system reduces friction and wear, providing low water and electricity consumption and assuring longer life.

The interior of Curtis air conditioner cabinets are insulated with an approved type of heavy insulating and sound-absorbing material, thus exterior sweating is prevented—quietness is assured

All Adds Up to More Profits Because of—

- Long Life, Slow Speed
- Negligible Maintenance Expense
- Quiet, Dependable Operation
- One-Day Installation
- Smart, Modern Exterior Appearance
- Completely Assembled at the Factory
- Full Range of Sizes and Capacities

**Before You Sign, Check the Advantages
of the Curtis Line**



REFRIGERATING DIVISION

of Curtis Manufacturing Company

1915 Kienlen Avenue • Saint Louis 20, Missouri

95 Years of Precision Manufacturing

R 49-13

and AIR CONDITIONING • JULY, 1949

27

"We Boost and Job Penn Refrigeration Controls

because so many Refrigeration Service
Engineers recommend and
prefer to use them"



O. L. Easterbrook
President
Marquette Equipment Co., Peoria, Ill.

Outstandingly successful operators in the field of refrigeration, Messrs. Easterbrook and Roth join in this tribute to the quality and the reputation which Penn refrigeration controls enjoy among service men. Their firm, The Marquette Equipment Co., Peoria, Illinois, is one of the leading organizations of the area.

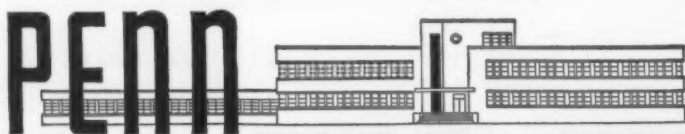
Newest addition to the Penn line is the Series 321 Hot Gas Defroster which automatically defrosts refrigeration coils at regular intervals, with a minimum effect on the temperature of the stored products. This new Penn product, in successful use by original equipment manufacturers, is now available to installers and service engineers through regular trade channels. Throughout the field of commercial refrigeration there is a

waiting market for this automatic means of keeping coils efficiently free of frost.

This new automatic defroster is a worthy companion to the famous Penn 270 Refrigeration Control, with its 2-pole contact structure and sight-set calibrated scale—the control which has set a new standard of performance in the industry. Ask your wholesaler—or write now for detailed information about the Series 321 and Penn's complete line of refrigeration controls. **Penn Electric Switch Co., Goshen, Indiana.** Export Division: 13 East 40th Street, New York, U.S.A. In Canada: Penn Controls, Ltd., Toronto, Ontario.



Bryson H. Roth
Vice President
Marquette Equipment Co., Peoria, Ill.



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, PUMPS, AIR COMPRESSORS, ENGINES, GAS RANGES

BTU

News • Laws • Trends

What's New in the Industry

FLUOROCARBON gas (says Business Week) is being marketed by Minnesota Mining Mfg. Co. But for "application testing" only; it isn't available in commercial quantities yet. Possible applications are as a refrigerant, gaseous dielectric, fire retardant, and insecticide repellent.

And here's good news for concerns selling beer cooling equipment: beer consumption per capita in 1948 hit a repeal record of 18.4 gallons. But, according to the Research Co. of America, this is still under the pre-prohibition peak of 21 gallons.

Does It Pay to Modernize?

DOES store modernization really pay off? Definitely yes, say retailers representing 18,000 stores who answered a questionnaire sent them by the Store Modernization Institute of New York City. Because 69% of remodeled stores found increased sales, 52% found more customers and 54% found better customer relations as a result of modernization, there seems to be no question that an attractive modernized store is one successful way to combat tightening market conditions.

The improvements made included air conditioning equipment, installed by 46% of the chain stores and 19% of the independent stores answering the questionnaire; water coolers, installed by 35% of the chains and 16% of the independents; and eating facilities (which would include refrigeration equipment), installed by 18% of the chains and 5% of the independents.

Cream-Filled Pastries Must Be Cooled

IN Cheyenne, Wyo., the city council has introduced an ordinance to compel bakeries and other establishments handling custard-filled pastries (cream puffs, eclairs, Boston cream pie, etc.) to provide refrigerated storage for such products or else stop production of them during warm-weather months. Originally the proposed ordinance stipulated that highly perishable goods of this type should not be sold at all during the summer months.

The bakers, however, convinced the council that if the cream-filled products were properly stored under refrigeration they would be all right for consumption, and so the ordinance was amended to allow the sale of them provided they were kept under controlled temperatures. Another section of the regulation prescribes proper storage of various types of baking materials.

Why Not Give Freezers A Push?

IF YOU'RE looking around for a product to push this year, why not consider the freezer? Here's a product whose possibilities are really "wide open." Only about 4% saturation has been reached on the freezer, according to reliable market estimates. Only about 1,400,000 homes have a freezer; 33,805,000 homes do not have one. What a market!

The post-war freezer market hasn't been the bonanza many "experts" predicted it would be—but it can still be as profitable a one for you as any, this year. No trade-in problems, either. But find out for yourself what you can do with a freezer—use one in your own home. Then, when you sell, you'll know what you're talking about.

How Many Parts in a Refrigerator?

EVER stop to consider how many parts go into the making of a modern electric refrigerator? Here are some figures that D. C. McCoy of Frigidaire gave in a talk at a recent ASRE meeting in New York City:

One typical model (the Frigidaire MJ-7) requires a total of 448 finished parts; 247 finished parts and assemblies that are obtained outside the company's own plant (such as screws, wiring, and glass items), and 158 more items that must be secured for conversion into 201 finished parts at the plant.

Now, consider that all these 448 parts must be in their proper place on the assembly line, together with the necessary number of workers to put them together—and multiply 448 by the daily, monthly, or annual production of this one model. You'll begin to realize that a vast number of parts—and people—are needed to keep this branch of the industry going.

New Tubing Makes for Neater Jobs

A LIGHTWEIGHT plastic tubing, recently developed, is said to provide effective and protective insulation in conduit installations and for compactly sheathing a series of wires. Available in natural clear color, black, white, blue, green, red and yellow, the tubing has numerous specific applications in the automotive, electrical, marine, power and processing industries for consolidating an aggregate of wires with a clean, compact package to protect and improve installation appearances.

This Puts Freezing in the Bag

A NEW type of plastic food bag developed recently for use in freezers may be re-used over and over again and will not deteriorate, stick together nor crack, even in sub-zero temperatures, it is claimed. No outer covering is necessary when these bags are used for meats, pastry, fruits, fish or vegetables, and they can be easily and quickly cleaned for re-use with soap and water.

The bags are available in various sizes and can also be used in regular household refrigerators, as cookie jar liners, moisture-proof covers—in fact, as a covering for anything that should be protected from moisture, mildew, and other deteriorating factors.

DISPLAY

YOUR SERVICE

Are you proud of the appearance of your service department? If you are, then why not make a point of showing it off to your customers as this Colorado commercial contractor does

PROPER display of your service department can prove an effective selling tool for your commercial refrigeration products. This fact has been convincingly demonstrated by Sears Appliance Co., Arvada, Colo., for by using a bit of "showmanship" in the merchandising of its service operations this firm has built up an enviable volume of rural commercial refrigeration sales.

William E. Sears, owner of this enterprising firm, is a veteran of 20 years experience with the Frigidaire organization. During this time he acquired a wholesome respect for the beneficial effect which intelligently planned service methods could have on commercial refrigeration sales.

Consequently, when he established his headquarters in Arvada, just 10 miles from Denver, his first step was to literally put his service department on display with a neat eye-appealing layout which constantly builds all phases of the firm's business.

Sears Appliance Co. keeps busy

with all varieties of commercial sales and service, including display boxes for drugstores, grocery stores and supermarkets, walk-in refrigerators and self-service cases for the same outlets, up to custom-built walk-in boxes for the profitable farm market in the surrounding area. In addition, the store sells one of the state's best volumes of domestic appliances for use on REA lines, and has a sales crew regularly contacting farmers all over Jefferson County.

"Look-In" Department

Both commercial and domestic prospects are invariably pleased with the immaculately clean service shop which is the most prominent feature of Sears' showroom building. Seven large display windows on two sides permit passersby to see over rows of domestic and commercial appliances into the service shop itself, which is separated from the sales floor by huge full-vision windows.

All physical features of the service

department were deliberately planned to impress visitors, instead of being hidden away in the remote rear of the store where few prospective customers would ever see them.

Included in this setup is a neat test bench for refrigeration compressors with polished brass connections, meters for head pressure and refrigerating capacity, and powered with a $\frac{3}{4}$ horsepower motor. This is located just inside the doorway.

Past this unit, visitors taken "on tour" of the shop see a recharging panel, with five valve controls, pressure gauges, and chromium metal trim, which regulates flow of freon and methyl refrigerants from a battery of pressure cylinders in a tilted rack on the rear wall.

Next in line are 48 adjustable bins for storing the expansion valves, solenoids, controls, and other small parts used in refrigerator repair. Then comes an adjustment workbench and,

(Continued on page 74)



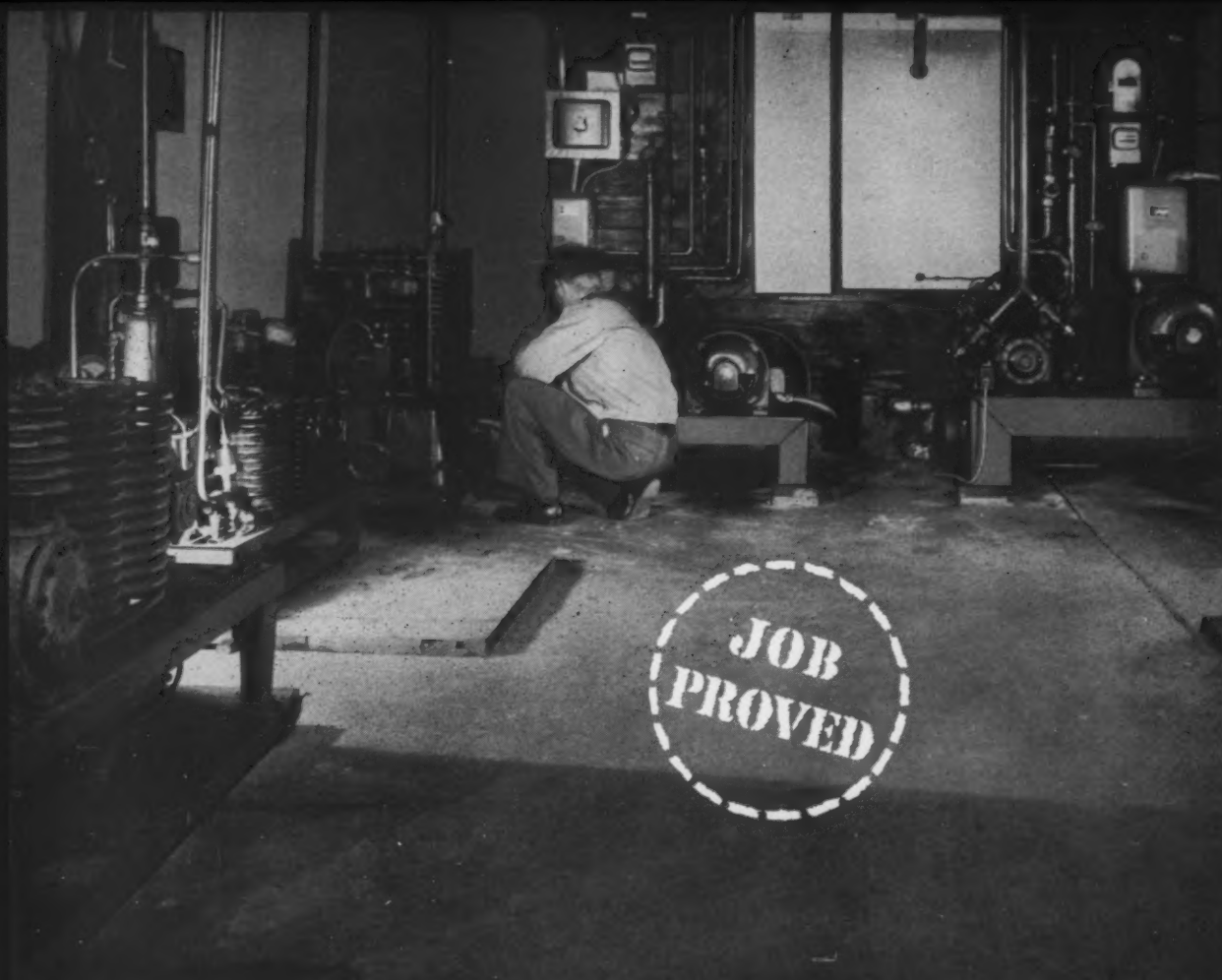
LEFT

This corner of the Sears service shop clearly shows how neatly all parts, tools, and materials are arranged. Note the refrigerant recharging panel built into the base of the bench at the left.

RIGHT

The clean white uniforms worn by every Sears serviceman stress the company's emphasis on the appearance of its repair department. The firm's name and address is lettered on each shop coat.





SUNISO HELPS HOLD CUSTOMER 15 YEARS

Refrigeration Equipment Distributor Makes Steady Customer As Result of Performance of Suniso-Charged Compressor

When a wholesale processor of pork products started in business he bought a single 1 hp compressor. The refrigeration equipment distributor who sold it to him charged it with Suniso. The first compressor performed so well that as business expanded and more equipment became necessary, the processor continued to buy from his original supplier.

In 15 years, unit after unit has been added. Today the processor has 10 compressors ranging as high

as 10 hp, used in a great variety of cooling operations, and all charged with Suniso. There has not been a single failure due to lubrication—even in summer, when the equipment is subjected to heavy loads, and the temperature of the meat must be closely controlled.

This is but one instance among many that indicate the profitable results to be expected from the use of the right "Job Proved" Suniso Oils in refrigeration and in air-conditioning. It is performance such

as this that has made them the predominant choice of original equipment manufacturers.

The different grades of Suniso Oil have extremely low pour-points and low wax-separation points. All have exceptionally high dielectric strength and high resistance to chemical change when mixed with Freon or any other modern refrigerant. Ask your Suniso jobber for a free copy of the illustrated booklet "Lubrication of Refrigeration and Air-Conditioning Equipment."

SUN OIL COMPANY • Philadelphia 3, Pa.

*In Canada: Sun Oil Company, Ltd.
Toronto and Montreal*

SUNISO REFRIGERATION OILS

"JOB PROVED" THROUGHOUT THE INDUSTRY





Jerry Grosh (left) and Jim Hawthorne, proprietors of Merchants' Refrigeration & Equipment Co., check over one of their monthly mailing pieces with the help of their charming secretary, Marilyn Myers.

A Timely PROMOTION

When you start up a new commercial refrigeration dealership, it is of the utmost importance to remind your prospects—early and often—that you are in the business. Here's how one enterprising firm did this job with a monthly calendar mailing

SUPPOSE you had just started up a brand new commercial refrigeration and air conditioning dealership in a community where a reasonable amount of competition already existed. Suppose you had obtained distribution for some good lines of equipment, had found a business location, had stocked your sales floor and set up your service shop.

Suppose, in short, that you had actually taken the plunge and were in this new venture on a strictly "swim

or sink" basis. How, then, would you go about informing your prospective customers that you were after their business? And just what means would you use to keep reminding them of this fact until the idea finally began to take hold and these prospects began turning into customers?

Jerry Grosh and Jim Hawthorne were faced with just this problem when they established their Merchants' Refrigeration & Equipment Co. Inc., in Fort Wayne, Ind. And

one of the answers on which they settled constitutes an interesting experiment in the realm of commercial refrigeration promotion.

By way of background information, Grosh and Hawthorne first met while both were engaged in sales work for another commercial refrigeration distributor in town. It was while they were employed with this firm that they became determined to take a flyer into the business on their own hook.

They simply decided, Grosh explains, that if they could sell this type

Front and back covers of the initial mailing are shown at left. Note that this first back cover message took the form of an introductory greeting. Subsequent back covers are being used to do an active selling job on specific products handled by the company, as indicated at the right.

The Bull Dog

Belle Polka: —

Meet our new sales representative the Bull of the Road! We hope you will enjoy his monthly visits as much as we will enjoy serving you!

When you see him coming, say it loud to him that we do appreciate your good will and friendliness and that we do want to serve you every time a need arises.

To our old friends — thanks for everything — and to our new friends — welcome into our circle! We hope to have the privilege of serving you often.

James M. Myers

MERCHANTS' REFRIGERATION & EQUIPMENT CO., INC.
St. Wayne 2, Indiana

NO, NO! DON'T DO THAT! DON'T HAVE ME LOOK REFRIGERATOR IN FRONT OF MY NEAT SHIRT!

JUST BLAME MY KNIFE DOWN THERE ANY NEW COME OUT LIKE A THICKER GRAPE?

"LOOK REFRIGERATOR! MAY, HE COULDN'T LOOK ANY MORE REFRIGERATOR THAN THAT CAUGHT IN ALL THE MODERN SAFETY DEVICES ON IT!"

Merchants'
REFRIGERATION • STOVE REPAIR • AIR CONDITIONING
OUR SPECIALTY
Standard WALK-IN COOLERS • CANNES • Etc.
Complete Engineering and Repair Service

MARCH - 1949																				
FEBRUARY 1949		MARCH 1949										APRIL 1949								
SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT	SUN	MON	TUE	WED	THU	FRI	SAT
							1	2	3	4	5			1	2	3	4	5		
6	7	8	9	10	11	12	13	14	15	16	17	18	19	10	11	12	13	14	15	16
20	21	22	23	24	25	26	27	28	29	30	31			17	18	19	20	21	22	23
27	28	29	30	31										24	25	26	27	28	29	30

OPEN for Business

Never give a customer a chance to change her mind when she wants to BUY! Don't make her wait. Self-service cases increase sales and cut down selling costs.

This new KOCH Open Front Display Case takes an active part in selling pre-packaged fresh meats, dairy products, produce, delicatessen, bottled goods, and many other items. These fine, costly perishables are kept cold, fresh and palatable; but always within easy reach of the shopper. And they are displayed to all their natural brilliance by cool, fluorescent tubes. The copper-lined plate glass mirror multiplies the impression of quantity in the money display section. The mirror is set at just the right angle to catch the eyes of shoppers everywhere in the store... so they can see the display from almost any angle.

Best section is recessed, and gives plenty of toe-room at the front. The gleaming nickel finish at the bottom puts the emphasis of eye-appeal on the money upper section. The display glass ends and fronts are extra spacious.

MERCHANTS' REFRIGERATION & EQUIPMENT CO., INC.
St. Wayne 2, Indiana

of equipment for somebody else they could sell it for themselves.

Both men had the benefit of previous experience in sales work, but only Grosh had any technical knowledge of the refrigeration game. This he had acquired during some eight years spent in refrigeration design and engineering with General Electric Co.'s manufacturing organization in Fort Wayne. All of Hawthorne's previous experience, on the other hand, had been in other fields of endeavor, and so he promptly set about to learn the necessary technical and service fundamentals from Grosh, his new associate.

The pair actually started up their new enterprise in July, 1948. They managed to obtain the dealership for such well-known lines of equipment as Koch commercial refrigeration cases and Carrier packaged air conditioning units. To round out their services they also took on a full line of meat slicers, grinders, scales, and other market and store equipment.

Despite these factors in their favor, it was only natural to expect some pretty tough sledding at first. And tough it was. Sales those first few

MERCHANTS' Refrigeration & Equipment Co., Inc., new Fort Wayne, Ind., dealer in commercial refrigeration and air conditioning equipment, purchased the direct mail promotion deal described in this article from an advertising specialties firm as a packaged proposition for one year. The first of these monthly cartoon calendars was sent out over the company's imprint last March. The cost of this promotional program is approximately 10 cents per copy per month, including mailing, for the quantity which the firm sends out.

COMMERCIAL REFRIGERATION AND AIR CONDITIONING magazine, like the owners of Merchants' Refrigeration & Equipment Co., will follow the results of this promotional program with intense interest. At the conclusion of the year-long campaign the editors of this magazine will report on the success or failure of the plan and its implied possibilities for use by other firms in the refrigeration field.

months were slim, indeed. And with each passing month the principals in this new firm became more acutely aware of the need and importance of indelibly impressing upon the minds of all their "Grade A" prospects the name of their organization, their own individual names, the lines of equip-

(Continued on page 54)

It's a SALESMAN'S Market!

E. E. Potter

Vice President
General Electric Co.

(In an address at the 41st annual convention of
the National Electrical Wholesalers Association)

IT SEEMS to be the fashion today to say that we are getting into a buyers' market. I don't agree.

I think that what we are really getting into is a salesman's market. From here on out there's going to be plenty of competition for most markets. And what is wrong with that? Keen competition is typically American—we have thrived on it.

We older salesmen remember when sales talks were verbal wrestling matches every day of the year. But we are apt to forget that there are thousands of young men who have only recently discovered that the primary function of a salesman is to sell goods. Is this bad? I don't think so.

In fact, we should begin to reeducate these youngsters who have never taken part in a competitive training program. We must teach them the know-how—not keep it to ourselves. We must attract them to our business of selling, and to our methods.

Statistics show that about 3,000,000 people reach working age every year. It is an obligation we should assume very gladly to teach youngsters that our way of life is the best that can be promoted and that they should be proud of the opportunity to follow in our footsteps and be counted as wanting more power for America and what it has stood for.

And, incidentally, while we are speaking of training, what about us old-timers doing a little orienting of ourselves to the conditions ahead? Are we as fit for the new problems in the new period of competition as we think we are?

I believe that more competition is going to be good for our whole economy. Anything which restricts competition beyond a certain point, over too long a period of time, is dangerous to our economy. In spite of the growing morass of government regulations and controls, we still have a highly competitive economy in this country. It is more competitive than most other contemporary economies, or than those of earlier times.

You distributors, wholesalers and contractors play a very important part in this scheme of things. You are good salesmen, and in the period ahead, America, and the world, is going to need good salesmen.

We have had too much controlling of men and the controlling of things and too little *persuading*, which in the last analysis is selling. But I think we all have a little more than a product to sell these days—let's say, a product plus—since by definition of our jobs the product must come first.

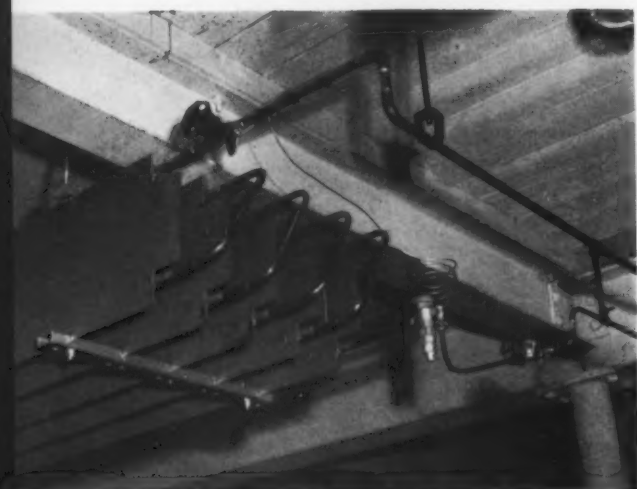
I believe, as most people, that this country faces great opportunities and great responsibilities in the next 10 to 20 years, but I also believe that whether we adequately live up to these opportunities and responsibilities depends, primarily, on how fully we are able to develop our business enterprise.

Portrait of a Modern **FROZEN FOOD WAREHOUSE**

100,000 cubic feet of low temperature storage space are provided in this modern food freezing and frozen food storage plant. Here is a description of the refrigeration system which makes this plant possible



This view down the full length of one of the third-floor storage rooms gives some idea of its size. Note arrangement of cold plates.



This detail shot shows the valving arrangement which is used in connection with the cold plates which refrigerate the storage rooms.

FLEXIBILITY, economy, and automatic operation were the three prime features carefully engineered into the modern food freezing and frozen food storage plant erected last year for Frozen Food Storage Corp. of Cambridge, Mass.

Refrigeration equipment for this three-story brick building was supplied and installed by the Boston branch of Automatic Refrigerating Co., Frick distributor in that area. Headquarters of Automatic Refrigerating Co. is in Hartford, Conn.

This plant originally was designed as a sort of ultra-modern, super locker plant to serve the metropolitan Boston area, but during the course of its construction brighter profit possibilities loomed in another field and so its owners converted it—in mid-stream, so to speak—into a specialized plant for the freezing of foods under their own brand name and for the bulk storage of frozen foods for institutions and other wholesale users of these products.

One of the plant's specialties is the processing and freezing of poultry, and ample facilities have been provided for this purpose.

As it now stands the building provides approximately 100,000 cu. ft. of low temperature storage space. The plant's facilities are distributed throughout its three floors as follows:

Ground floor—two bulk storage rooms, blast freezer, receiving and shipping departments, poultry evis-

cerating room, machinery room.

Second floor—two bulk storage rooms and offices.

Third floor—two bulk storage rooms.

Ceiling, walls, and floors of the building are insulated with 8 or 6 inches of sheet cork board, depending on exposure.

Both rooms on the third floor and one on the ground floor are maintained at zero F using ceiling plates arranged in banks and connected to a Frick 6-cylinder Freon compressor having automatic capacity control to reduce the capacity as the load falls off. This compressor is driven by a 40-hp motor.

The space on the second floor originally was intended for use as public locker storage, but when plans for the building were changed this space was converted into a zero F bulk storage room. Ceiling plates arranged in banks and connected to a 3-cylinder, 15-hp compressor provide the refrigeration for this room.

One small room on the ground floor is designed for normal operation at 35 F, but may be carried at zero F in case of emergency. Here again ceiling plates are used, being connected in this instance to a 2-cylinder, 2-hp compressor.

Also located on the ground floor is the plant's blast freezing room, which is equipped with four Kramer Thermobank evaporators having automatic hot gas defrosting accessories. These blower coil units are connected to a 3-cylinder, 20-hp Frick compressor having automatic capacity control

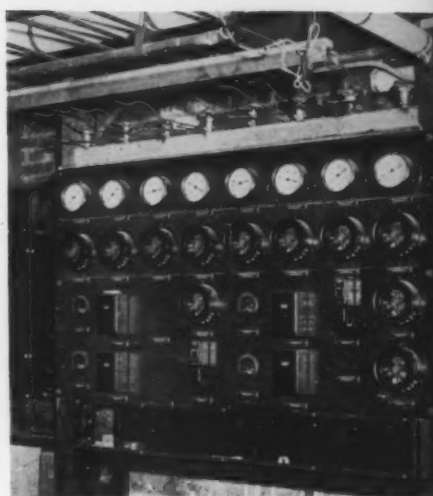


Four Thermobank units (another pair is mounted at the other end of the room) pull the temperature down well below zero in the plant's blast freezing room. Automatic gas defrosting is provided. These units are powered by a 20-hp Frick compressor.

to compensate for the higher suction pressure during the defrosting cycle.

Each compressor discharges into an evaporative condenser located on a platform at the rear of the building. The prime surface condensing coil of this unit is divided into four sections proportional to the load on the various compressors. These coils drain into separate receivers which also are located on the platform which supports the evaporative condenser itself. The condenser is designed for highly efficient winter operation without the use of water.

Complete instrumentation of all the refrigeration equipment throughout the plant is provided by a control panel located on one side of the machinery room. On this panel are mounted high and low pressure gauges for each compressor, safety controls, capacity controls, and timing relays for defrosting cycles.

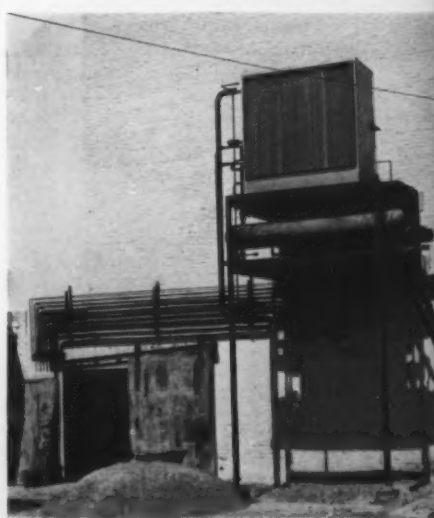


Complete instrumentation for the plant is provided by this master control panel mounted in the machinery room. Gauges and controls for each compressor are included.



All compressors in the plant discharge into this evaporative condenser located on a platform at the rear of the building. This condenser is designed for highly efficient winter operation without the use of water.

This heavily insulated cold storage door provides access from the second-floor storage room to the plant's service elevator. Note at extreme left the insulation used around supporting columns in the plant.



YOU CAN CURE EMPLOYEE TURNOVER

By H. W. Willyoung

Director, Associate Membership
Research Institute of America, Inc.

EMPLOYEE turnover is a peculiar disease. The veteran employee is relatively immune—it's the new-comer who is highly susceptible. In fact, it is not unusual to find 75% of all turnover centering on employees who have been with the company less than six months.

Unfortunately, supervisors and foremen—the people who have the greatest influence with new employees—are inclined to think of high employee turnover as a problem to be solved by the personnel department, or, in smaller companies, the individual who does the actual hiring.

The person whose department (or business) is being constantly upset by departures and arrivals, and who has the continuing headache of training new people, is apt to figure that the employment department (or, in smaller organizations, the individual who does the hiring) is falling down on the job of recruiting, screening and placement.

In some cases, of course, this may be the right explanation; in others, it may be partially true. But often the

COMPANIES that have kept careful estimates report that their employee turnover costs from \$10 to more than \$200 per individual. Even a moderate turnover rate, therefore, can be a major cost item. Yet it is one that can be largely avoided if the right methods are used in the induction period. The following article tells you what steps you, as an employer, can take to reduce employee turnover. It is reprinted by permission of the Associate Membership Division, Research Institute of America, Inc., New York City, and is based on material which the Institute prepared for member companies and their supervisors.

—The Editors

shoe is on the other foot. A great deal of turnover is the result of improper induction and follow-up by the supervisor. Unless he picks up where the department (or individual) who does the hiring leaves off, the separation rate in the early months of employment can be startlingly high.

If you want to lower your turnover costs, the logical place to start is with your supervisors and foremen. One method is to provide them with a written guide based on your company's policies. "You Can Cure Turnover", the booklet which the institute has prepared for supervisors

and foremen enrolled as associate members, contained the checklists shown in the table on these pages, all of which can be modified to meet your own organization's requirements.

Usually we think of induction as a process of relatively short duration. Actually it exists until the new employee has become an old-timer in his eyes as well as those of his fellow workers. This means that the supervisor must make regular and thorough-going check-ups long after the first week—that he must continue to be on the watch for such symptoms as loss of interest; a defeatist attitude; failure to grasp instructions; low initiative; lack of responsibility; poor teamwork and gripes.

Another danger point is absence of suggestions. The new employee who steadfastly withholds voluntary contributions may be deliberately avoiding anything that helps the other fellow out—or he may simply be convinced that his contribution isn't

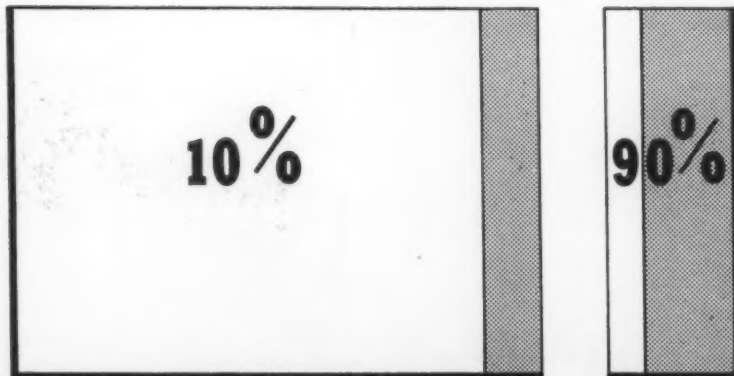


Figure 1—The employee turnover problem, illustrated. The large box in this diagram represents the "old-timers", comprising 90% of employees, among whom there is but 10% turnover, the small box represents the group that has been with a company six months or less, which accounts for 90% of the turnover.

worth the effort. There is always the possibility, too, that the supervisor himself may be failing to invite the new employee's cooperation.

A final check-list, based on these various points, will help the supervisor determine when the end of the probationary period has been successfully reached.

While you yourself can adapt these various checklists to company requirements, you will get better results if the final versions are worked out by your supervisory staff at a group meeting. Plan your meeting to bring out four main points:

1. High turnover is a major cost factor.
2. Faulty induction usually is at the root of the problem.
3. Induction can reduce turnover when it is handled as a joint responsibility of the supervisor and the personnel department (or, in smaller companies, the individual who does the hiring)—with most of the burden on the supervisor or foreman.
4. Successful induction must be systematic—built around checklists tailor-made to your company's requirements.

Know the Facts

If you are to succeed in getting the basic ideas across, your meeting will have to be built on a firm foundation of the facts as they apply to your company, and not on generalities about turnover. Here are the figures that will have to be supplied:

1. *Annual rate of employee turnover* (Most easily figured by dividing the total number of separations a year by the average number of people on the payroll in that year. The average payroll figure can be obtained by adding the mid-monthly figures and dividing by twelve.)
2. *Costs of employee turnover* for recruiting, hiring, placing, equipping, training and terminating.

Your turnover costs, of course, are actually higher than these figures indicate, since the figures include only the easily measured factors.

Have the individual who is running your group meeting list a few of the hidden cost factors on a blackboard—loss of individual production; decrease of team production; loss due to bad community and public relations. If time permits, let your supervisors themselves dig out a few of the

(Continued on page 52)

EMPLOYMENT CHECK-CHART

1. BEFORE ADDING A NEW EMPLOYEE

- Can vacancy be filled by promotion?
- If not, is more training needed?
- Does vacancy offer opportunity for transfer?
- Is workforce sold on the need for an outsider?
- Has the job been made as attractive as possible?
- Is the personnel department (or the person who is to do the hiring) supplied with a good picture of the person you need?

2. WHEN INTERVIEWING

- How long has applicant held similar jobs?
- Have his references been checked?
- Has he a clear picture of the job's advantages?
- Discounts?
- Vacations?
- Bonus?
- Has he a clear picture of its disadvantages?
- Should the job content be changed?
- Can changes be sold to others concerned?

3. AFTER JOB IS ACCEPTED

- Has the new employee necessary preliminary information?
- When and where to report?
- Suggested dress?
- Where and how he will be paid?
- Where he'll eat?
- Parking lot location?
- Is the workgroup prepared?
- Do they know he's coming?
- Are they familiar with his qualifications?
- Has THEIR cooperation been secured?

4. BEFORE THE NEW EMPLOYEE REPORTS

- Have you made room for him on your schedule?
- Is his workplace ready?
- Location okay?
- Supplies?
- A fellow-employee assigned as sponsor?
- His first day's work laid out?

5. FIRST DAY INDUCTION

- Has the new employee been welcomed?
- Desk, etc., assigned?
- Immediate questions off his chest?
- Pay procedure reviewed?
- Tour of department been made?
- Layout explained?
- Rules and customs?
- Introductions made?
- Work assignment?
- Written informational material issued?
- Department floor plan or roster provided?
- Employee turned over to sponsor?
- End of day interview with supervisor?

6. FIRST WEEK INDUCTION

a. Information

- Has new employee read employee's handbook?
- Does he understand rules and regulations?
- Does he understand necessary procedures?
- Vacation policy, bonus plans?
- How his pay is computed?
- Basis of pay increases?
- Promotion opportunities?
- Suggestion system?

b. Performance

- Does he understand standards?
- Have you recognized his good points?
- Made necessary corrections?
- Highlighted his progress?
- Given him objectives?
- Importance of job?
- Departmental goal?
- Company goal?
- Has he self-confidence?

c. Adjustment

- Teamwork stressed?
- Any friction?
- Extra efforts by other members of the group recognized and acknowledged?
- Does he know about departmental off-the-job activities?
- Company paper utilized?
- End-of-week interview:
- With sponsor or assistant?
- With new employee?

COMMERCIAL

SALES NEWS

NCRSA Launches 6-Point Program of Action for '49

An ambitious six-point program of action aimed at a thorough reorganization of its membership and financial structure, providing for the selection of a paid executive secretary, and stressing increased activity of its trade relations committee has been outlined by the National Commercial Refrigerator Sales Association for accomplishment this year, according to Russ Maintain, of Boston, NCRSA president.

The association also has appointed a number of committees to handle the various phases of its affairs.

The Year's Program

The year's program of action, as outlined by president Maintain, is as follows:

1. Reorganization to build up importance and authority of local and regional groups nationwide. The committee is now considering several proposals, and taking necessary steps to combine the advantages of each into a program which will be put into effect before the end of the year.

2. Setting up a basic financial program to assure sound financial policies. Deficits of previous years have been cleared up, and the Association has substantial funds in the treasury. These will be allocated according to the budget approved by all officers of the executive committee, and no funds will be spent except in accordance with the established budget and for the promotion of the six-point program.

3. Selection of a paid executive secretary to handle the affairs of the Association. Several candidates are now being considered for this position.

4. Increased activity of the trade relations committee. A survey is now being made by the committee to investigate the advisability of request-

ing the Federal Trade Commission to formulate a set of Fair Trade Practices Rules for the industry at the dealer level.

5. A vigorous drive to secure more members, including both dealers and manufacturers.

6. To carry on important work of the joint relations committee with the refrigeration manufacturers. To collaborate with the manufacturers in taking definite action toward clearing up fundamental evils in the industry.

"Already we know that this program is working out for the benefit of the refrigerator industry," Maintain declares. "Local groups are continuing to give the Association their wholehearted support this year."

New committee chairmen appoint-

ed by the Association are: ways and means, Russ Maintain; membership, C. S. White, Cincinnati; convention, E. C. Newton, Jersey City, N. J.; ethics and grievances, Paul Allen, Little Rock, Ark.; joint relations with manufacturers, W. C. Bader, Tulsa, Okla.; public relations, Glenn Chapin, San Antonio, Tex.; trade-in practice, Joseph S. Lipack, New York City; legislative, George Scott, New Bern, N. C.; finance and budgeting, I. W. Shell, Chicago; trade relations, E. Ward Soanes, Buffalo, N. Y.; business procedure and research, F. D. Stella, Detroit, Mich.; licensing and codes, S. G. Taylor, Des Moines, Iowa; western states membership development, Emery E. Wilson, Portland, Ore.

OAKLAND LAW HELPS FROZEN FOOD SALES

A sizeable increase in sales of frozen foods by retail grocers in Oakland, Calif., is promised through passage of a city ordinance which allows grocers to handle frozen foods without a walk-in refrigerator in their stores. Prior to passage of the new ordinance only stores with walk-in low temperature refrigerators could sell frozen foods.

This represented a serious loss to grocers in food volume and profits, according to grocers' association offi-

(Continued on page 69)

THEY PRACTICE WHAT THEY PREACH



Setting an example for its dealers and distributors in the way of attractive display, Frigidaire Div., General Motors Corp., has incorporated an all-product display into its new factory reception room. This new room offers visitors to the company's general offices an opportunity to learn about commercial refrigerators, air conditioning units, and other products, while they await their appointments with company executives. This photo shows a section of the commercial refrigeration display.



MODEL 6710

A sure lure for promoting sales of produce, dairy products, and other long-profit perishables. This wide, handsome Koch case with big, gleaming back mirror spells extra profits in terms any merchant can understand. The finest open case at any price.



MODEL 306

Triplies the appeal of dairy products, delicatessen, and bottled goods. Any alert grocer can see how the three easy-to-reach shelves will increase impulse purchases . . . and pay for itself in no time. Each shelf independently refrigerated and fluorescent lighted.



MODEL 5710

Here's new glamour for your prospects' pre-packaged fresh meats, produce, dairy products, and delicatessen. 10-ft. long. Open front for easy access by customers or by clerks. Refrigerated lower compartment for speedy re-stocking. Brilliant fluorescent lighting.

KOCH

gives you

something to

"Sell about"



TO STIMULATE SALES IN TODAY'S MARKET

It takes more than gleaming cases and fast conversation to sell refrigerators today. If your prospect starts crying the blues, he's wide open for a wide-open Koch case, the kind that helps fill shoppers' baskets and dealers' cash registers. Delicious foods, attractively arranged in a gleaming extra-large Koch case, pulls plenty of extra sales that amortize the cost in a surprisingly short time.

Investigate the unique sales-features of Koch cases today . . . the kind of features that give you *something to sell about*. A note directly to the factory will bring a prompt reply.

KOCH

Refrigerators

NORTH KANSAS CITY 16, MO.

Since 1883

Write Today for Details
and Open Territories

modern marine refrigeration

A comprehensive discussion of the practices and principles involved in the application of modern refrigeration equipment to commercial vessels

S. W. Brown

Chief Engineer, Marine Dept.
Carrier Corp.

PROPER stowage of perishables aboard ship is essential if serious spoilage is to be avoided. The subject of stowage will not be treated in this discussion except to mention that containers and packages should be arranged to provide ample passage for the circulation of conditioned air throughout the cargo.

Reciprocating Compressor Performance Cited

The development of quick frozen foods and the increase in its distribution has influenced the design of cargo refrigeration.

Previously, refrigerated cargo compartments were designed for a minimum temperature of zero F. Some shippers of quick frozen foods require -10 F to be maintained.

To obtain this temperature it is necessary to operate the compressor at suction temperature of approximately -25 F for direct expansion systems or -35 F for indirect or brine systems. At a condensing temperature of 105 F, this results in a compression ratio of 10.4 and 13.3 respectively.

Freon-12 reciprocating compressors not equipped with water jackets reach the limit of practicability at a compression ratio of about 12. At higher compression ratios, it is usually advisable and economical to

use two compressors in series, either by direct staging or by cascading.

A curve of the volumetric efficiency for a typical Freon-12 reciprocating compressor is shown in Figure 1. A comparison of the performance of a typical reciprocating Freon-12 compressor operating at various suction and condensing temperatures is presented in Table 3.

It is to be noted, in Figure 1 and Table 3, that the overall volumetric efficiency falls off sharply as the compression ratio increases. It is also interesting to note that brake horsepower per ton is doubled when the suction temperature is reduced from 15 to -20 F and is more than tripled when the suction temperature is reduced to -35 F. It is, therefore, important to carefully select the maxi-

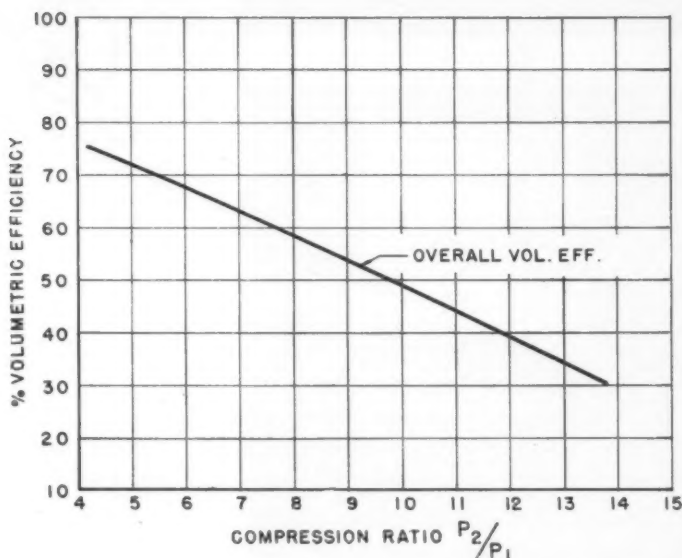


Figure 1—A curve of the volumetric efficiency for a typical Freon-12 reciprocating compressor such as used in shipboard cooling installations.

mum permissible temperature to be carried during the voyage.

Advantages of Centrifugal Machines Outlined

In certain applications, the multi-stage centrifugal refrigerating machine has been found to have many advantages, among which are the following:

1. Occupies less space than any other type.
2. Inherently more efficient than other compressors under comparable operating conditions.
3. Has fewer wearing parts, re-

ducing maintenance costs to a minimum.

The centrifugal refrigerating machine is available in sizes greater than 100 hp and is, therefore, limited to large installations.

Six American President Line C-3 cargo vessels, completed shortly after the end of World War II, are each equipped with two 4-stage Freon-11 centrifugal refrigerating machines, direct connected to 250-hp turbines.

The refrigerated space is divided among 13 compartments, each equipped with a Carrier cold diffuser and capable of maintaining any temperature from -10 F to 55 F. This installation has proven highly successful, particularly in the transportation of frozen foods at -10 F.

Fish Freezing at Sea Offers New Possibilities

The Department of the Interior recently announced that a project to freeze fish at sea for later processing on shore is the first item on the technological research program of the Fish and Wild Life Services Branch of the Division of Commercial Fisheries for the fiscal year. It was further stated that the preliminary tests, using new techniques, have been encouraging.

It is proposed that the fish will be quick-frozen in the round aboard the fishing vessel immediately after the catch. It is then proposed to defrost the fish on shore so that fillets can be cut, and then re-frozen and stored.

Valuable by-products, which are now mostly dumped overboard, would be recovered on shore to produce fish meal, vitamin oils and other pharmaceutical products.

In the closing months of the war, the Defense Plant Corporation, a subsidiary of the Reconstruction Finance Corporation, authorized funds to convert a cargo vessel into a factory ship for the freezing and processing of tuna at sea. J. M. Lemon and C. B. Carlson, of the Fish and Wild Life Services, have presented an extremely interesting description of the operations of this vessel, the S. S. "Pacific Explorer", in Fishery Leaflet 273, January 1948, of the Fish and Wild Life Services.

Another interesting application of fish freezing equipment was made in the trawler "Deep Sea", which was constructed as a factory ship to quick-freeze, process and package King crabs and fish at sea. This vessel has a capacity of 150 tons of frozen fish.

The vessel has 8500 cu. ft. of refrigerated cargo space, which is designed to be held at zero F. The quick freezing is accomplished in a blast type freezer in which trays of fish are descended vertically at a pre-determined speed so that, at the end of the travel of each tray, the freezing process is complete.

Air is circulated through the freezing tunnel at -45 F. The fish are filleted and packed in metal pans measuring 48 x 12½ inches and containing approximately 36 pounds of fish. The waste, which represents from 55 to

75% of the catch in any filleting operation, is discharged overboard, releasing storage space for a larger cargo of frozen fish fillets.

The operation includes the complete processing of the fish, including the final packaging so that, upon the return of the vessel to port, the cargo is ready for the market.

Floating Freezing Plant

The "Arcturus", constructed within the last year, is equipped with a refrigerating plant to process and quick-freeze shrimp immediately after the catch in the warm waters of the Gulf of Mexico. This trawler is designed to process 300 pounds of shrimp per hour.

The shrimp are dumped from nets hauled over the side into the refrigerated deck boxes on the after and main decks which are held at about 34 F. They are then taken to the preparing tables where they are deheaded and cleaned and packed in 5-pound cartons.

These cartons are then stored in the ante room where they are chilled before they are placed in the freezer room which is located on the main deck, about midship.

Sea Water Defrosting

Quick-freezing is accomplished by means of a blast freezer in which the air is circulated over a series of trays in a specially constructed tunnel. After the quick-freezing operation, the shrimp are placed in insulated holds maintained at a temperature of zero F and capable of storing about 70 tons of packaged shrimp.

The equipment consists of a Carrier 7G8 compressor, driven by a 40-hp electric motor through multiple V-belts, a marine shell and tube condenser, and a factory assembled marine type direct expansion Freon-12 15Q cold diffuser for the freezer room.

A second cold diffuser is located in the hold and is served by a 7H5 compressor, V-belt connected to 7½ hp electric motor. Another 7H5 compressor driven by a 5-hp motor serves the ante room, which is equipped with a ceiling-suspended type cold diffuser.

The defrosting of all cold diffuser units is accomplished by means of sea water spray.

Several vessels operating in the
(Continued on page 54)

TABLE 3

Performance Comparison of Typical Reciprocating F-12 Compressor (Liquid subcooled 10 degrees)

Condensing temp. F	105	105	105	105
Suction temp. (Corresponding to suction pressure at compressor, F.)	15	-5	-20	-35
Item				
Compression ratio P2/pl	4.3	6.6	9.2	13.3
Refrigerating effect Btu/lb.	49.7	47.6	46	44
Cycle Efficiency %	77	71	66	61
Coefficient of performance	4.1	3.2	2.6	2.1
Overall volumetric efficiency %	75	65	52	35
Brake hp per ton	1.6	2.3	3.2	5.3

ABOUT *People*

Robert A. Hoagland, for the past eight years vice president and sales manager of Jefferson Electric Co., Chicago, has been appointed vice president and general sales manager by Mills Industries, Inc., Chicago manufacturer of condensing units, beverage coolers and dispensers, automatic fountain, and ice cream machines. According to E. A. Tregenza, Mills executive vice president, Hoagland will supervise all sales and promotional activities for all divisions of the company.

Appointment of **George L. Drake** as advertising manager has been announced by E. R. Walker, vice-president, Fedders - Quigan Corp., Buffalo. Drake will work with the several sales managers in directing the company's advertising program in each of the vari-

ous sales divisions.

He has been engaged in various phases of advertising, promotion and public relations for a number of years, with the exception of four years spent in active duty with the U. S. Navy. He was most recently associated with Deepfreeze Div., Motor Products Corp.

H. V. Flood has joined the organization of Graves Refrigeration Co., Miami, Fla., wholesaler of refrigeration equipment and supplies, in the capacity of general coordinator.

C. J. Otterholm has been appointed sales agent for Acme Industries, Inc., in the states of Minnesota, and North and South Dakota. Formerly assistant general sales man-

ager of McQuay, Inc., Otterholm for the past two years has been general manager of Vincent Refrigeration Supply Co., of Minneapolis.

Three new personnel appointments have been announced by Acme Industries, Inc.

Charles King Carter has joined the firm as sales engineer, coming to Acme from Universal Cooler. **Robert T. Jones**, previously supervisor of design and development for



Carter



Jones

Airtemp Div., Chrysler Corp., becomes the new manager of design and development for Acme. **Roy C. Yantis**, formerly sales manager of Henry Valve Co., joins Acme as a regional sales manager. In this capacity he will cover the eastern states, contacting and assisting dealers, distributors, engineers, architects and jobbers on the selection and application of Acme products.



Yantis

John P. Strange has been appointed regional sales manager of the southern region for Deepfreeze Div., Motor Products Corp., to succeed Thoben F. Elrod, who has resigned. Strange previously had been district sales manager for the southern region.

Leetate Smith has been appointed general sales manager of Palmer Mfg. Corp., Phoenix, Ariz., according to an announcement by Oscar C. Palmer, owner-president. Smith is well known in the heavy appliance field, and just prior to



joining the Palmer firm directed hiring, training and sales programs for some of the larger fraternal insurance companies. He is active in the National Federation of Sales Executives and a director of the Arizona Sales Executives Club.

Douglas A. Harwood has been named southeastern division manager of the Sunroc Refrigeration Co. at Glen Riddle, Pa. Harwood will make his headquarters in Atlanta, Ga. He formerly was assistant director of development of the National Association of Manufacturers.



Appointment of **Andrew J. Plattner** as Michigan representative for Grand Rapids Brass Co. has been announced by David Ralston, sales manager of the refrigerator hardware division. Plattner will handle Grand Rapids Brass Co.'s commercial refrigerator hardware line in Michigan and Ohio. His office is in Detroit.



L. L. Vollman and **Charles F. Barmeier** have been appointed zone engineers for Thermorite Corp., St. Louis. Their work will be with franchised Thermorite distributors and dealers handling engineering and

(Continued on page 71)

CONTRACTORS

News • Activities • Plans

New Wisconsin Code May Increase Installation Costs

Requirements such as the need for registering all new or used remote refrigeration installations over 1½ tons and unit systems over 3 tons are incorporated in the new refrigerating plant code for the state of Wisconsin which has recently been put into effect by the state industrial commission.

The code is intended to apply "to all refrigerating machines installed in public buildings and places of employment, except refrigerating systems using air or water as the refrigerant."

A provision of the code that will add to the installation costs of many contractors is that section requiring all water-cooled compressors or condensing units up through 3 tons, and air-cooled units over 1½ tons but not over 3 tons to be equipped with either a pressure relief valve or a "pressure limiting device" (high-pressure cut-out). Many units falling within these categories are not normally factory-equipped with cut-out devices.

Provisions of Code

This same provision also requires that each compressor and condensing unit of over 3 tons capacity be equipped with "adequate pressure relief valve capacity."

Other sections of the new code provide that:

"Refrigerant-containing vessels shall be constructed, inspected, and stamped in accordance with the requirements contained in the Unfired Pressure Vessel Code of the American Society of Mechanical Engineers 1946 edition."

"Each pressure vessel exceeding 5 cu. ft. net capacity shall be protected at all times by a pressure relief valve . . ."

"New and used remote systems exceeding 1½ tons capacity or unit systems exceeding 3 tons capacity shall not be installed until a Refrigeration Form, indicating that the system will be installed to meet the requirements of this code, has been filed with the Industrial Commission by the owner or by the installing contractor in behalf of the owner, and a declaration to that effect has been conspicuously posted on the premises."

"The discharge from safety valves attached to low pressure accumulators may be connected into the suction line on the machine side of the stop valve or outdoors . . ."

"When a hot gas defrosting line is used, there shall be a check valve in the discharge line between the condenser and the point where the hot gas line connects into the discharge line."

"Check valves shall be installed in an absorption system exceeding 3 tons capacity and shall be located between the rectifier and the condenser and in the discharge line close to the aqua pump."

The new code applies only to installations made after May 11, 1949, when the regulation went into effect. However, parts installed on existing systems must comply with the new code, and systems found in violation of the previous (1918) code must be made to comply with the most recent regulation.

RICHMOND CONTRACTORS FORM LOCAL GROUP

A group of 25 refrigeration firms, comprising almost 100% representation of the local refrigeration contractors in Richmond, Va., met recently and decided to form an association to be known as the Richmond Refrigeration Contractors Association.

Ralph Lampie, vice president of the Ralph Lampie Refrigeration Service, was elected president; Robert M. Dunville of Robert M. Dunville & Bros., vice president; and Cedric

Evans, president of the Hill Refrigeration Corp., secretary.

The new association will endeavor to promote better safety conditions, and will cooperate in this respect with the various city authorities in developing a new code, Evans said.

A committee has been set up to study and recommend to the city a refrigeration code that would be drawn from similar codes now in use by other large cities, he said. These codes would be adapted to local conditions.

The association will meet monthly and has already commenced work on a suggested code.

"AIR CONDITIONING" ADDED TO CONTRACTORS' NAME

It's now official—a vote by the membership has approved "Refrigeration and Air Conditioning Contractors Association" as the new name of the former National Association of Refrigeration Contractors.

This new name, it is felt, describes more accurately the fields served by the association membership, many of whom are engaged primarily in air conditioning work. Heretofore, many prospective members in the air conditioning branch of the industry may have hesitated to join the association simply because the former name misled them and it was assumed only refrigeration contractors were eligible.

Association headquarters remain at 228 N. La Salle St., Chicago 1.

BREWER BECOMES V.P. OF CLEVELAND CONTRACTOR

The board of directors of Refrigeration Sales Corp., Cleveland, Ohio, has named chief engineer Wm. M. Brewer as vice president in charge of engineering according to Warren W. Farr, president of the refrigeration and air conditioning contracting firm.

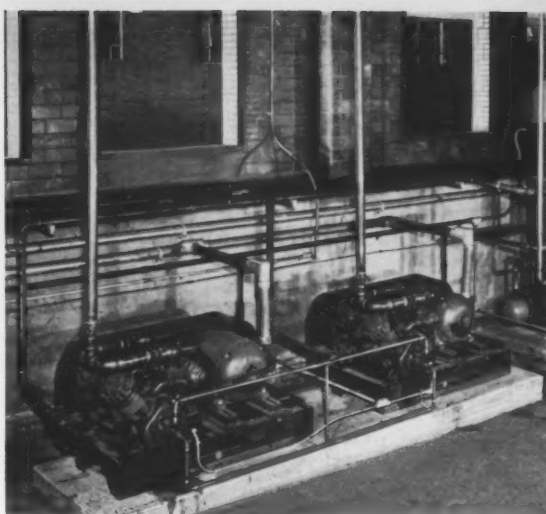
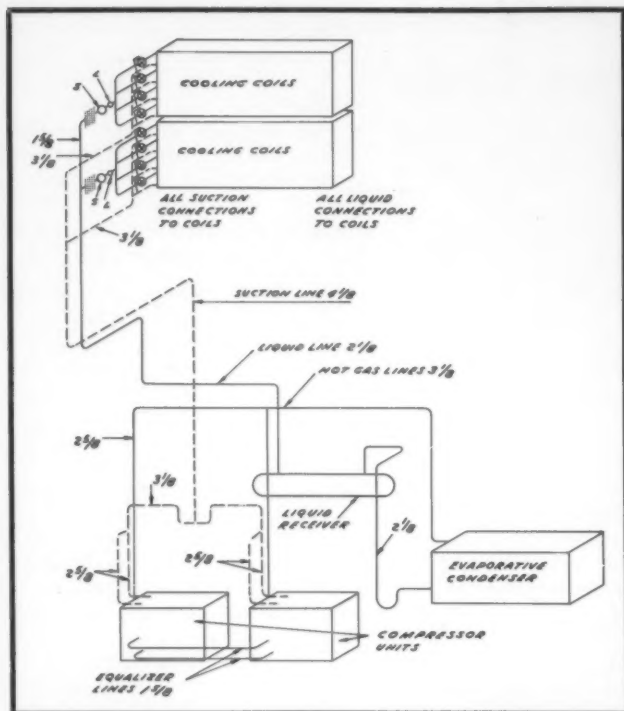
While assuming broader responsibilities and authority, Brewer will continue to direct all engineering for the refrigeration and air conditioning systems handled by his company. Refrigeration Sales Corp. is authorized representative in Cleveland for Carrier self-contained air conditioning and Servel commercial refrigeration.

Continued on page 70



Brewer

This schematic diagram shows the refrigerant piping layout for the revised air conditioning system in Cincinnati's Union Terminal.



WHEN WELL

neers decided against using a water cooled condenser in the new refrigeration system. Instead, an evaporative condenser was installed which uses city water for make-up water, thus eliminating entirely the use of the well

WELL water air conditioning systems may be all right as long as the well provides the right kind of water to use as a cooling medium. But if conditions change, and the water becomes unsuited for this purpose, then there's trouble ahead.

When they encountered this identical situation in the Cincinnati Union Terminal, engineers of Advanced Refrigeration Co., local dealer of General Electric commercial equipment, solved the problem by installing a 100-hp direct expansion system to replace the well water job which previously had been used to cool the station's restaurants.

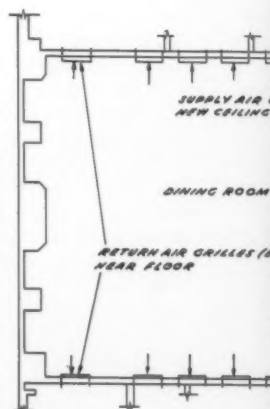
In the original installation at the terminal, the cooling medium was cold water obtained from a deep well. During recent years, however, the temperature of this well water had been gradually rising, and also the well had been pumping a fine sand deposit.

These factors eventually combined to render the well water impractical for further use in air conditioning. Water temperature went up as high as 75 F, which prevented it from being of any benefit in dehumidifying the air. The sand in the well water, of course, very quickly clogged up the tubes in the cooling coils so that the water passages became stopped up.

The original installation had two separate fan rooms and used all outside air, with none being recirculated. In revising the layout, however, Advanced engineers, headed by chief engineer W. B. Cooper, were able to make certain changes so that one single fan room could be used for the entire installation, with recirculated air being brought from certain portions of the air conditioned space to reduce the load.

Due to the great amount of difficulty experienced by the terminal in using well water for cooling, the engi-

Air distribution for the converted cooling system is shown in this plan diagram. Existing facilities were used wherever possible.



The problem of where to locate the compressors and evaporative condenser for the new direct expansion system was solved by placing them on an unused streetcar roadbed.

in connection with the new air conditioning system.

Some difficulty was encountered in finding a suitable location for the compressors and evaporative condenser of the new system, as the entire terminal is built on columns that have piling foundations drilled in sand. The structural engineers at the terminal objected to the adding of 10 tons of loading to one or two of these columns.

It finally was decided to set the equipment on a roadbed which was originally designed for streetcars. This roadbed actually never had been used, inasmuch as the final plans provided for bus rather than streetcar service to and from the terminal.

In designing the new air condition-

ing system, Advanced engineers provided for bringing back the return air from the dining room and from the breakfast room, but not from the coffee shop. A great deal of cooking is done under the hooded section of this latter room, and it was felt that the odors would spread too rapidly.

Engineers for the refrigerating firm were handicapped in rearranging the ductwork for air distribution in the new system as the result of a requirement by the terminal management that no changes be made which would in any way alter the architectural appearance of the building. This made it necessary to use, insofar as possible, existing air distribution arrangements.

The existing supply duct to the coffee shop was extended over the roof and through the hallway to the dining room. A new supply grille was furnished and a motorized shutoff damper was installed in this duct, together with the necessary fire dampers.

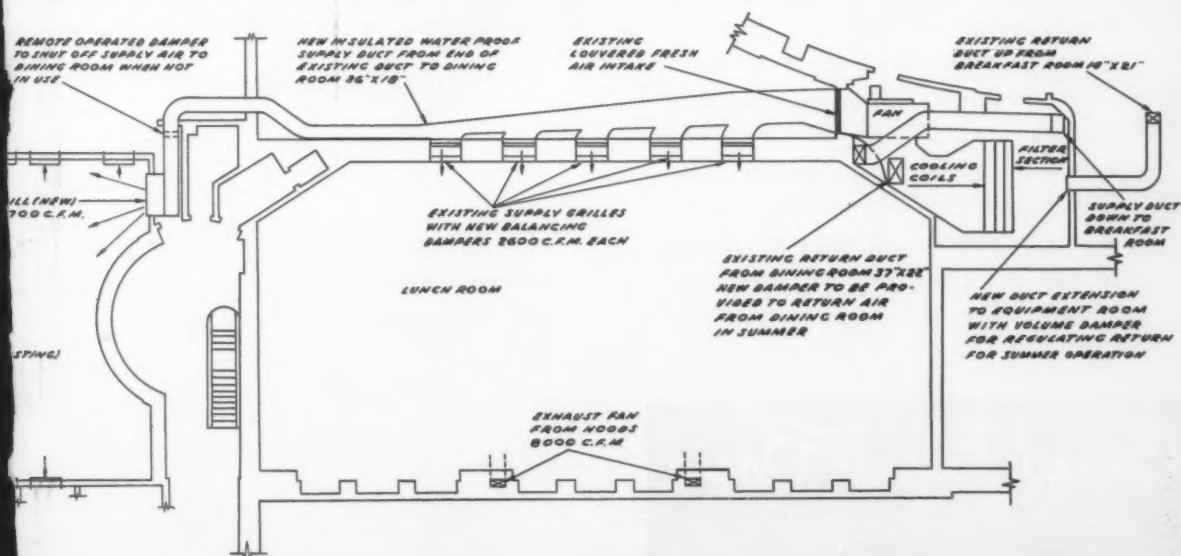
Former exhaust openings were closed off with sheet metal. The exhaust duct from the eight floor level openings was provided with dampers and a cutoff in the equipment room so that this duct would either return air to the equipment room or exhaust it to the outside.

In the coffee shop itself, manual volume dampers were installed in the

(Continued on page 56)

WATER WON'T WORK

... then install a direct expansion system to provide the necessary cooling. That's the way a Cincinnati contractor handled the revamping of the air conditioning system which serves the dining areas in that city's railroad terminal



**SERVICE
MEN...**

HARDWARE REPLACEMENT

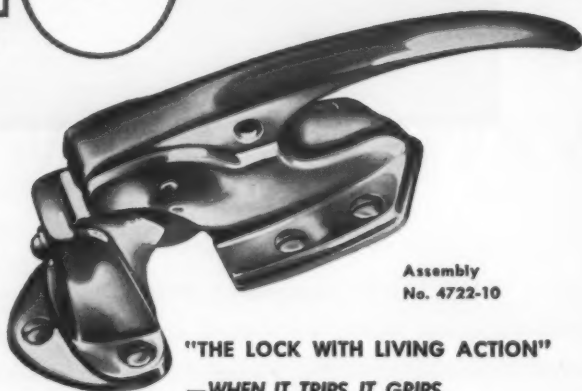
means more sales...easy sales...good profit

in addition to your time and service charges

**YOU MAKE 40% PROFIT
ON HARDWARE**

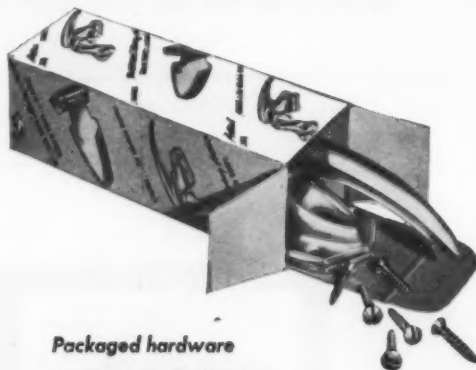
There's a big market for hardware replacement business right in your own city. Worn locks, strikes, and hinges mean poor refrigeration... you can replace them quickly, easily, profitably with Grand Rapids Brass packaged units. In addition to your time and service charges, every \$20.00 sale of Grand Rapids Brass replacement hardware means \$8.00 profit for you!

Be sure of satisfied customers. Beautifully designed chrome-plated hinges operate smoothly on self-lubricating oilite bearings and stainless steel pins. Install these units and insure complete customer satisfaction. Take advantage of this profit opportunity. See your jobber today.



Assembly
No. 4722-10

**"THE LOCK WITH LIVING ACTION"
—WHEN IT TRIPS IT GRIPS.**



Packaged hardware
complete with chrome-
plated brass screws.

Grand Rapids Brass
C O M P A N Y

GRAND RAPIDS 4, MICHIGAN

A DIVISION OF
CRAMPTON MANUFACTURING COMPANY



REFRIGERATION INDUSTRY *News*

WILSON PROMOTES VOSKAMP, PUSEY

Directors of Wilson Cabinet Co., Inc., at their recent annual meeting elected Harry A. Voskamp, Jr. and Raymond E. Pusey as new vice presidents of the company. John E. Wilson, Jr. was re-elected president of the company and Aubrey A. Davis, director of sales and advertising, was re-elected vice president.

Henry C. Webb was named treasurer and Robert F. Nixon, secretary. Directors, in addition to those named above, are Alfred E. Bissell, William K. Patton, Arthur F. Morton and James P. Brennan.

Voskamp, now director of purchases, came to Wilson in 1946 as plant superintendent from Armstrong Cork Co. Pusey, who is Wilson's chief engineer, has been with the company for 10 years.

REMCOR TO REPAIR "LIQUID" CABINETS

Refrigeration Maintenance Corp., Chicago, has been appointed by Liquid Carbonic Corp. to handle nationally the repairs on all "Liquid" ice cream cabinets. Complete shop facilities for reconditioning this equipment, including evaporator replacements, condensing unit rebuilding and replacement, and cabinet repairs have been set up by Refrigeration Maintenance.

Same reconditioning procedure is being used as was followed previously by the manufacturer, and a full one-year warranty is furnished. Evaporator replacements are supplied to Refrigeration Maintenance by the factory to assure that the original manufacturing procedure is maintained.

Flat charges have been set up for the re-operation of all "Liquid" cabinets, from 2- to 12-hole. The original cabinets as received in the re-operation department are rebuilt, refinished, and returned to the user.

WARD MFG. CO. TO OPERATE AS DEBTOR IN POSSESSION

The request of Ward Mfg. Co., doing business as Ward Refrigerator & Mfg. Co., 6501 Alameda St., Los Angeles, that it be permitted to continue operations as debtor-in-possession has been granted by Hugh L. Dickson, referee in bankruptcy, before whom the company's petition for an arrangement under Chapter XI is pending.

The order was made following the request of two creditors for the appointment of a receiver. Operations will continue until further notice and under certain requirements as to filing of reports of operations. J. A. Stoner, Ward executive vice president, has been appointed as disbursing agent.

Ward has filed a plan of arrangement under which it offers to pay unsecured creditors in full over a period of three years.

HEATING FIRM BUYS GEMCO DIVISION

Agreement for the purchase of the Gemco Air Conditioner division of General Engineering & Mfg. Co. by Automatic Firing Corp. has been announced. Both are St. Louis (Mo.) companies.

Automatic Firing Corp. is a manufacturer of gas and oil conversion burners, coal stokers, and other heating equipment. The purchase was reportedly arranged to provide a year-around sales and manufacturing operation and to eliminate the seasonal aspect of the heating equipment business.

Gemco air conditioning distributors throughout the country will be given the opportunity to sell Automatic Firing equipment.

The purchase does not include the machine tool division of Gemco, which General Engineering & Mfg. Co. will continue to operate.

PALMER BUYS WEST COAST HEATER FIRM

Oscar C. Palmer, owner-president of Palmer Mfg. Corp., Phoenix, Ariz., has announced the recent purchase of the Pacific and Superior Heating divisions of the Naco Mfg. Corp. of Los Angeles, a subsidiary of the Grace Steamship Lines.

Palmer stated that his firm would manufacture the "Pacific" and "Superior" heating equipment from the same dies, patterns and tooling developed by Naco.

The Palmaire Heater division of Palmer Mfg. Corp. is absorbing the Pacific and Superior production. The Palmer heating equipment will be manufactured under the trademarks "Pacific", "Superior" and "Palmaire".

MARLEY OPENS PLANT IN LOUISVILLE, KY.

Marley Co., Inc., Kansas City, Kans., manufacturer of water cooling towers, nozzles and dry surface coolers, has started production in a new plant at Louisville, Ky. C. W. Zimmerman is plant manager.

Extensive modernization of the plant building has been completed. A new building is being added and a large area hard-surfaced for storage purposes. New facilities have been installed for loading and unloading trucks, and another spur track for railroad cars has been added.

The Louisville plant will primarily fabricate metal for Marley products, but will also assemble some of the smaller units. Several models will be carried in stock.

MCCOMBS OPENS IN ALBUQUERQUE

McCombs Refrigeration Supply Co. has announced opening of a new branch store at 322 North First St., Albuquerque, N. M.

WORTHINGTON PLANT IS "ON CAMPUS"



Thirteen mechanical engineering students of the senior class, University of Massachusetts, recently visited Worthington Pump & Machinery Corp.'s Holyoke Works, where Worthington product and research engineers offered instruction to supplement the regular university curriculum. To overcome a partial loss by fire of the university's engineering laboratory facilities, university officials arranged a carefully planned program which included visits by the students to nearby industrial manufacturing plants. The group, accompanied by two faculty members, were officially welcomed to the Worthington plant by E. M. Detwiler, works manager, before engaging in an inspection tour. Illustrated talks were given on theory and engineering of air and refrigeration compressors.

13th FIRM LICENSED UNDER "RECORD" DEFROST PATENTS

Kohlenberger Engineering Corp., Fullerton, Calif., producer of refrigeration and ice making equipment, is the latest company to be granted a license to manufacture refrigeration equipment using the water defrost method. The firm has been licensed to use this method by Refrigeration Engineering, Inc., Los Angeles, holder of the patent covering this development and producer of equipment under the "Record" name.

Under the terms of the license agreement, which is identical with that issued by the Record organization to 12 other refrigeration manufacturers, Kohlenberger will produce water defrost refrigeration equipment under its own trade name.

Validity of the water defrost patent recently was upheld by the United States Circuit Court of Appeals.

NEW LARKIN POLICY ALLOWS FREIGHT

Larkin Coils, Atlanta, has released a new price list which allows freight on all of its blower units except floor models, heat exchangers, air cooled condensers and water coolers. Fin coils are not affected by the freight-allowed policy. The new prices went into effect on May 1.

"Our prices were so low," stated O. M. Sims, general manager of Larkin Coils, "that for us to allow freight on these items a few months ago would have necessitated our increasing prices to include the added cost. We have not increased prices to include freight. We have simply used the prices in effect before May 1, plus or minus a few cents to round off the figures."

Another convenience to wholesalers and dealers is the publishing of two price lists by Larkin Coils. One shows only the list prices. The other, for use by wholesalers and dealers, shows the dealers' net prices as well as the list prices for all articles in the company's catalog.

Copies of the new price lists have been mailed to all dealers and wholesalers.

75% OF EXHIBIT SPACE ALREADY SOLD FOR 6th ALL-INDUSTRY SHOW NOV. 14-18

"Promote your line in '49 . . . for Bigger Sales in '50" has been adopted as the slogan for the 6th All-Industry Refrigeration and Air Conditioning Exposition, to be held in Atlantic City, Nov. 14-18.

Refrigeration Equipment Manufacturers Association, sponsor of the Show, report that more than 75% of the exhibit space already has been sold and allotted, indicating that practically every branch and phase of the mechanical refrigeration and air conditioning industry will be represented.

Holding the Show in Atlantic City will bring the all-industry event to the eastern states for the first time in its history. According to H. F. Spoehrer, chairman of REMA's show committee, importance of the eastern market was a determining factor in taking the show to its current site.

A large attendance is anticipated, since over half the population of the U. S. is within overnight travel by train. Hotel accommodations have been made in advance, with 5200 rooms reserved at various first-class hotels.

Following is the most recently issued list of exhibitors:

Ace Cabinet Corp.; Acme Industries, Inc.; Acme National Refrigeration Co., Inc.; Air Conditioning & Refrigeration News; Alarco Mfg. Co., Inc.; Alco Valve Co.; American Brass Co.; American Colls Co.; American Refrigeration Corp.; Amineco Refrigeration Products Co.; Ansul Chemical Co.; Arcade Mfg. Div. of Rockwell Mfg. Co.; Automatic Products Co.

Baker Refrigeration Corp.; Bally Case & Cooler Co.; Baltimore Aircoil Co., Inc.; Bell & Gossett Co.; Beta Corp.; Binks Mfg. Co.; Black, Silvalls & Bryson, Inc.; Bonney Forge & Tool Works; Brewer-Titchener Corp.-Crandall-Stone Div.; Brunner Mfg. Co.; Bundy Tubing Co.; Bush Mfg. Co.; Butcher Boy Cold Storage Door Co.

Century Electric Co.; Chase Brass & Copper Co., Inc.; Chicago Seal Co.; Coldin Cabinet Co., Inc.; Coolstream Corp.; Copeland Refrigeration Corp.; Cornelius Co.; Curtis Refrigeration Machine Div.; Cutler-Hammer, Inc.

Davison Chemical Corp.; Day & Night Mfg. Co.; Dayton Rubber Co.; Delavan Mfg. Co.; Detroit Lubricator Co.; Dole Refrigerating Co.; E. I. du Pont de Nemours & Co., Inc.

Ebeco Mfg. Co.; Electrimatic Div. of The Simonis Co.; Eaco Cabinet Co.; Easton

Chemicals, Inc.; Evans Mfg. Corp.

Fedders-Quigan Corp.; Fine Products Co., Inc.; Fresh-Aire Co., Div. of Cory Corp.; Frick Co., Inc.; Ed Friedrich Sales Corp.; Frigidaire Div., G.M.C.; Frigidraft Inc.; Fogel Refrigerator Co.

Gates Rubber Co.; Gem Refrigerator Co., Inc.; General Controls Co.; General Electric Co.; L. H. Gilmer Co.; Grand Rapids Brass Co.

Haldorf Mfg. Co.; Halstead & Mitchell; Heating and Ventilating; Heat-X-Changer Co., Inc.; Hedeman Products, Inc.; Henry Valve Co.; Highside Chemicals Co.; Hubbell Corp.

Ice-Flo Corp.; Ideal Cooler Corp.; Imperial Brass Mfg. Co.

Jack & Helms Precision Industries, Inc.; Jamison Cold Storage Door Co.; Jar-row Products; Jewett Refrigerator Co., Inc.; John Lees Div. of The Serrick Corp.; Jordan Refrigerator Co., Inc.

Kason Hardware Corp.; Kenmore Machine Products, Inc.; Kennard Corp.; Kerotest Mfg. Co.; Kinetic Chemicals, Inc.; Kold-Hold Mfg. Co.; Kramer Trenton Co.

Lake Chemical Co.; Larkin Coils; Lehigh Mfg. Co.; Lewin-Mathes Co.; Libbey-Owens-Ford Glass Co.; Linde Air Products Co.; Lynch Corp.

McCray Refrigerator Co.; McIntire Connector Co.; McQuay, Inc.

Mario Coil Co.; Marsh Corp.; Jas. P. Merchant & Evans Co.; Metals & Controls Corp. — Spencer Thermostat Div.; Mills Industries, Inc.; Mitchell Mfg. Co.; Mueller Brass Co.

Nash-Kelvinator Corp. — Kelvinator Div.; Nickerson & Collins Co.

Pacific Lumber Co.; Para-

gon Electric Co.; Patterson-Kelley Co., Inc.; Penn Electric Switch Co.; H. A. Phillips & Co.; Polar Hardware Co.; Quiet-Heat Mfg. Corp.

Ranco, Inc.; Redmond Co., Inc.; Refrigeration Appliances, Inc.; Refrigeration Corp. of America; Refrigeration Publications, Inc.

Remco, Inc.; Remington Air Conditioning Div. of Remington Corp.; Rigdiblit, Inc.; Rotary Seal Co.

Servel, Inc.; A. O. Smith Corp.; Southern Air Conditioning & Refrig. Jnl.; Sporlan Valve Co.; Standard Refrigeration Co.; Emil Steinhart & Sons, Inc.; Stoddard Mfg. Co., Inc.; Sun Oil Co.; Superior Valve & Fittings Co.

Techniflex Corp.; Tecumseh Products Co.; Temprite Products Corp.; Tenney Engineering, Inc.; Texas Co.; Tyler Fixture Corp.; Typhoon Air Conditioning Co., Inc.

Ultra-Violet Products, Inc.; United Manufacturing & Service Co.; United Refrigerator Co.; Universal Cooler Div. of Newport Steel Corp.

Victor Products Corp.; Victory Metal Mfg. Corp.; Virginia Smelting Co.

Wabash Mfg. Co.; Wagner Electric Corp.; Wagner Tool & Supply Corp.; Weatherhead Co.; Westinghouse Electric Corp.; White-Rodgers Electric Co.; Whiting Corp.; Wilson Cabinet Co., Inc.; Wolverine Tube Div.

Yates-American Machine Co.; General Refrigeration Div.; York Corp.

HILL-YORK HEAD DIES

Harold H. Blair, 65, president of the Hill-York Corp., Miami, Fla., air conditioning contracting firm, died May 6 in Key West, Fla., of a heart attack. A Miami resident for 14 years, Blair came there from South Bend, Ind.

FREEZER FOR POLIO FOUNDATION



Morgan H. Potter (right), general sales manager of Marquette Appliances, Inc., lifts the lid of the 16-cu. ft. Marquette home freezer which his company presented to the Sister Elizabeth Kenny Foundation for infantile paralysis so that a young polio victim can see where the frozen food will be stored. Marvin E. Kline (left), director of the Foundation who made the prize drawings in a recent Marquette sales contest, accepts the freezer in behalf of the Foundation's hundreds of polio patients.

ACCENT ON SAFETY



As part of its program to familiarize firemen with the hazards connected with all refrigerants when decomposed by heat or flame, four members of the Indianapolis fire department were invited to attend an all-day session sponsored by the Indiana Association of the Refrigeration Service Engineers Society. The meeting was planned by E. W. Wulf, president of the Indiana group (and the only man in mufti in the front row). Second from left in the rear row is Paul B. Reed, educational director of the international RSES, and fourth from left in the same row is George J. Schuld, director of the safety committee.

G-E HAS NEW MOTOR DISCOUNT PLAN

Reductions in net prices ranging from 1/2% to 7% on polyphase and direct-current electric motors and generators from one to 200 hp will be realized by most purchasers as a result of a new motor and control sales and discount plan announced by General Electric. The plan extends greater discounts to most purchasers served by the company.

The company said that the reductions represent more than one million dollars in annual savings to these purchasers, and are in line with the company policy of reducing prices wherever possible.

SHEET METAL FIRM DISTRIBUTES BAKER

Baker Refrigeration Corp. announces the appointment of Sheet Metal Fabricators, Inc., Baltimore, as its new distributor in Maryland. Former Baker distributor for this territory, Air Conditioning, Inc., has moved its headquarters to Washington, D.C., and will continue to serve that city and the adjacent counties of Maryland and Virginia.

Established in 1945 by Christian P. Klapproth, its president, Sheet Metal Fabricators, Inc., has grown to include fifty employees.

Already well established in the air conditioning field, the firm recently organized a full-fledged refrigeration department to engineer, install, and service all types of refrigeration or air conditioning jobs.

TUBE EXPANDER LINE ADDED BY WILSON

Purchase of the tube expander business of Richard Dudgeon, Inc., New York City, by Thomas C. Wilson, Inc., Long Island City, N. Y., has been revealed in a joint announcement by O. J. Bagnoli, Wilson vice president, and Archibald Dudgeon, Dudgeon president.

Through the sale, Wilson, long established manufacturer of tube cleaning equipment, acquires Dudgeon's complete tube expander business including inventory, engineering data, goodwill and sole manufacturing rights. The purchase expands Wilson's line of equipment to handle both rolling and cleaning of all types of tubing in heat transfer apparatus.

According to Bagnoli, Wilson will combine the manufacture of Wilson tube cleaners and Wilson-Dudgeon tube expanders in its plant at Long Island City.

HEAT TRANSFER CO. LOCATES IN DEL.

Heat Transfer Industries Co. has selected Wilmington, Del., as the site of a plant which will eventually employ approximately 150 men in the manufacture of composite parts for air conditioning systems.

The company's operations will be housed first in two metal buildings at Blumenthal airport. Machinery and manufacturing processes will require approximately 10,000 sq. ft. of floor space at this new plant site.

GENERAL EASES FOREIGN CREDIT

General Refrigerators Corp., New York City, has announced that it is now offering easier credit terms to its foreign distributors.

The company said that a six-months' survey established the fact that "a relaxation of payment requirements is a healthy move in the direction of expanding international trade."

"Fully aware of the stringent currency controls in a great many countries, General believes that a more liberal attitude on the part of the seller will help the buyer over the present economical 'rough spots.'"

No details were given, but further information is available from the company, whose address is 678 Broadway, New York City.

ARMSTRONG DROPS CORKBOARD PRICES

A 10 to 15% reduction in the price of corkboard has been announced by the Armstrong Cork Co.

The range of the price reduction varies according to the shipping zones, the announcement said. All classes of trade and all types of the company's corkboard insulation are affected by the reduction.

BONNEY HEAD DIES

Bonney Forge & Tool Works, Allentown, Pa., announces the death recently of Fred S. Durham, Sr., president of the company.

DOAN MOVES TO FRIGIDAIRE FACTORY

Joseph W. Doan, appliance sales manager for Frigidaire's Pacific region, has been appointed manager of Frigidaire's quantity sales division with headquarters in Dayton. He succeeds C. H. Glenny, who has resigned to enter business for himself.

SANTOCEL PRICE DOWN 22%

A 22 percent reduction in the price of Santocel insulation has been announced by Monsanto Chemical Co. The price has been reduced from 64 to 50 cents a pound.

ARTKRAFT MEN IN COOLING COURSE

Thirteen employees of Artkraft Mfg. Co., Lima, Ohio, recently completed a 12-week course in refrigeration taught at the Lima Vocational School. Instructor in the course was Larry Herman, chief engineer of the company.

ALLENTOWN JOBBER IN NEW "HOME"

Larson Supply Co., refrigeration parts wholesaler, has moved its Allentown, Pa., store into a new and larger location at 310 Hanover Ave. O. A. Larson, head of the company, says that the new location provides increased parking and loading facilities, and space for larger stocks.



When a new ice rink floor was prepared for New York City's famed Madison Square Garden it required the laying of 13 miles of 1 1/4-inch galvanized wrought iron pipe spaced on 4-inch centers over the entire arena area. Leak-tight joints were obtained between this pipe and the "Flagg-Flow" threadless malleable iron fittings which were used to join the 20 and 40-foot pipe sections by sweating in Handy & Harman's "Easy-Flo" silver brazing alloy with oxy-acetylene torches as shown in the inset photograph. More than 6000 such joints were required to complete the floor.

MARCH GAIN SHOWN IN JOBBER SALES

March, 1949, sales of 24 wholesalers of refrigeration equipment and parts reporting to the Bureau of the Census were 21% higher than those for February of this year, but were 17% below those for March of last year, according to the bureau's monthly trade report.

First quarter sales of the firms declined 15% from the comparable period of 1948; their dollar sales in March totaled approximately \$776,000.

Reports to the census bureau from 14 parts wholesalers showed that March, 1949, inventories, valued at cost, increased 2% compared with March a year ago, but were down 2% as compared with February of this year. Dollar value of inventories was set at \$1,270,000.

NEW FEDDERS OUTLET

Rumbold & Co., Inc., 379 Nelson St., S. W., Atlanta, has been named distributor for unit air conditioners manufactured by Fedders-Quigan Corp., Buffalo.

WAGNER BUYS 2ND ILLINOIS PLANT

A plant consisting of industrial buildings containing 90,000 square feet located on an eight acre tract at Mt. Vernon, Illinois, has been purchased by Wagner Electric Corp. of St. Louis, Mo.

The Wagner company is concentrating its facilities for building transformer tanks at the new plant. The Mt. Vernon plant is the second Illinois property to be acquired by Wagner.

Altogether, by purchase and by additions to its main plant in St. Louis County, Wagner Electric has increased its manufacturing capacity approximately 50% since the end of the war.

ARTKRAFT MAKING HOUSEHOLD UNIT

Artkraft Mfg. Corp., Lima, Ohio, which has for some time been producing its own line of beverage coolers, is now making a 9 cu. ft. household refrigerator for private brand customers. Three department store chains (Mercantile Stores, Inc., New York

City; Allied Stores Corp.; and Interstate Electric Co., New Orleans) have contracted for quantities of the new refrigerator, according to Morton L. Clark, Artkraft president, and other contracts are in prospect.

PRICES REDUCED ON TRIPLE THERMOPANE

A reduction of 5 percent in factory price on quantity orders of triple-Thermopane, insulated glass for refrigerated retail display cases, was announced recently by G. P. MacNichol, Jr., vice president in charge of sales of Libbey-Owens-Ford Glass Co.

"We have been able to extend improved manufacturing techniques, which recently enabled us to reduce the prices for standard sizes of Thermopane for double-hung windows, to the production of triple-Thermopane," MacNichol explained.

The reduction in price applies to volume orders, but odd sizes in less than 10 unit orders carry a slightly higher price.

SILICONE RUBBER NOW IS AVAILABLE FOR LOW-TEMP USE

Stalwart Rubber Co., Bedford, Ohio, has announced that it now can furnish gaskets, diaphragms, sleeves, packings, channel, and numerous other molded, extruded, punched, and die or lathe-cut rubber parts fabricated from the new X-6 Silicone rubber stocks which have been developed specifically for extreme low temperature applications.

The brittle points of the low temperature X-6 Silicone stocks, measured on 3/4-inch thick sections according to ASTM D736-43T, range from -150 to -170 degrees F.

Rubber parts fabricated from these stocks are recommended for applications involving continuous temperatures as low as -110 degrees F. Extensive tests indicate that X-6 Silicone rubbers are resistant to sulphur dioxide and will withstand the chemical action of liquid ammonia and certain types of Freon used in refrigeration systems.

YOUR BEST BUY IS BY



VIBRATION ELIMINATORS

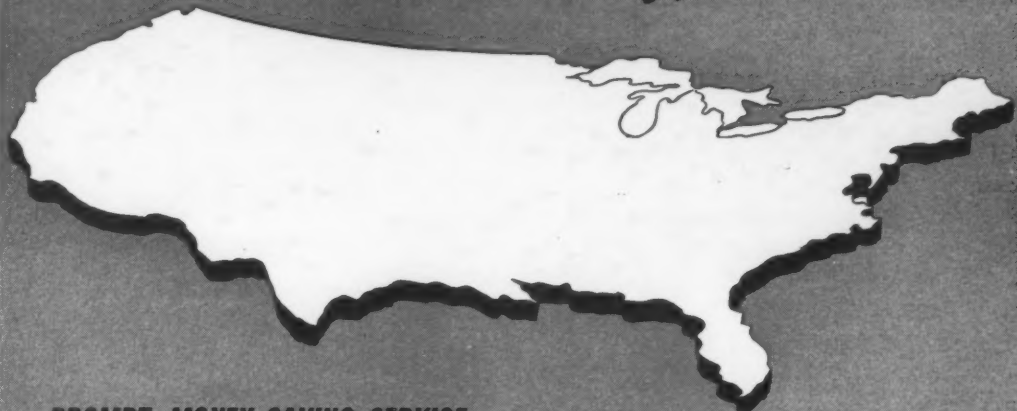
Wherever you are faced with the problem of piping refrigerant gases and liquids under varying degrees of temperature and vibration, Bendix Seamless Flexible Metal Hose is the perfect answer. Deep parallel corrugations, uniform wall thickness and seamless construction assure greater flexibility—longer service life.

Engineered to your requirements.
Rubber covered where desired.



Made by Eclipse-Pioneer Division • Bendix Aviation Corporation • Teterboro, N. J.

See Your **KEROTEST** Wholesaler

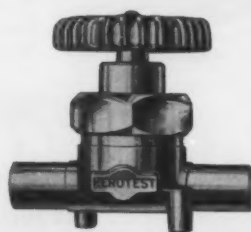
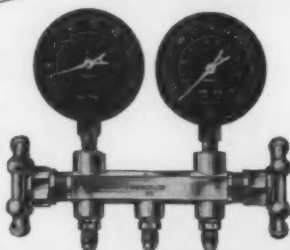
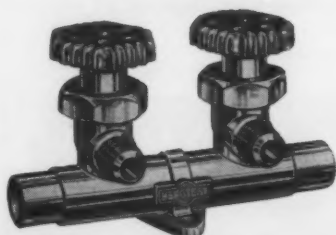
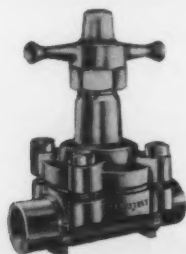


PROMPT, MONEY-SAVING SERVICE EVERYWHERE ON TOP-QUALITY REFRIGERATION VALVES AND FITTINGS

Just pick up your telephone . . . there's a Kerotest Wholesaler ready to serve your day-to-day needs with the finest in Kerotest Refrigeration Valves and Fittings and a host of other service essentials. Look to him always to maintain a complete stock . . . to keep you "up"

on the latest technical developments and to assist you with experienced "know-how." For every need . . . see your Kerotest Wholesaler.

**KEROTEST MANUFACTURING COMPANY
Pittsburgh 22, Pa.**



CURING TURNOVER . . .

Continued from page 37

hidden cost factors. Simply throw open the floor for discussion by asking, "What other loss factors are caused by high employee turnover?"

You can illustrate the structure of your turnover problem with a simple diagram (see Figure 1) drawn on the blackboard.

The large box represents the group of employees among whom there is almost no turnover—the 90%, the

old-timers—who account for only 10% of your turnover. The small box represents the employee group in which the turnover rate is highest—the group that has been with the company *six months or less*, and which accounts for 90% of the turnover.

Make sure that your supervisors and foremen understand the significance of these figures. After you have diagrammed and explained them, ask these questions:

How do these figures stack up with those in our company?

How many of our old employees

have left in the last year?

How do you think a chart of this kind would look for our company?

Have we ever made this calculation for our organization?

The rest of the conference is devoted to developing checklists that will help your supervisors do a better induction job and which are essential equipment if they are to follow systematically a step-by-step procedure for each new person.

Outline Points to Cover

The lists already provided in this article give you an outline of the points to be covered. The supervisors (or foremen) themselves should develop these outlines into a more detailed worksheet that meets your individual company needs. Ask such questions as "How can we schedule the new employee's arrival so that nothing can interfere with our giving him a good welcome?" And "What questions would he like to have answered immediately?" Use the blackboard to record the various recommendations.

At the end of the meeting, summarize what the group has worked out, and draw up their recommendations as a tentative company checklist; see that each member of the group receives a copy. Ask for additional suggestions and recommendations which will be discussed, accepted or rejected at a second meeting.

A Week Won't Do It

Results of the second session, when approved, will comprise the final checklist, which should then become your company's official induction procedure.

There is a final point that should be re-emphasized in conclusion: An employee has not been inducted by the end of a week. Induction—and the supervisor's induction responsibilities—last right up up to the time the new employee becomes an old-timer.

During those first critical six months, it's up to the supervisor to inoculate his new people against the turnover germ by giving them clear-cut objectives, the feeling that they are wanted, and a sense of permanency.

ELEPHANTS WILL DANCE ON THIS 13 MILES OF PIPE



Above: EASY-FLO brazing in 20 to 40 foot lengths in contractor's shop.

Below: EASY-FLO brazing sections in place in the Garden.



IT'S ALL EASY-FLO BRAZED

It's the refrigeration piping in the new floor in Madison Square Garden, N. Y. It's embedded in concrete with a bed coat and terrazzo flooring on top. EASY-FLO silver alloy brazing was picked for this critical piping job because of—(1) its proven ability to provide the permanently leak-tight, maintenance-free joints demanded—(2) its savings in installation time and costs over the old threaded method of assembly.

GET EASY-FLO FACTS IN BULLETINS 12A AND 17

Bulletin 12-A explains why and how EASY-FLO makes joints that fully equal the pipe itself in strength, and leak-tightness. Bulletin 17 tells how to braze pipe and fittings with EASY-FLO. Write for copies today.

HANDY & HARMAN

82 FULTON STREET NEW YORK 7, N. Y.

Bridgeport, Conn. • Chicago, Ill. • Los Angeles, Cal. • Providence, R. I. • Toronto, Canada
Agents in Principal Cities

BUY FROM YOUR
REFRIGERATION WHOLESALER

TOPS

IN THE FIELD!



THERMOBANK

Reg. U.S. Pat. Off.

by **KRAMER**

The outstanding development
in the refrigeration field in
the past decade.

The standard of the industry
for complete automatic defrost-
ing at temperatures below 32°.

**SPECIFY
THE BEST..
SPECIFY....**

Write for Bulletin R-124

THERMOBANK

---THE STANDARD OF THE INDUSTRY

KRAMER TRENTON CO. *Trenton 5, N. J.*

THERMOBANK-COOLMASTER-RADIAL UNITS-PANEL UNITS-CUBERS-FINNED COILS-BARE TUBE COILS-HEAT INTERCHANGERS-
CONDENSERS Air Cooled, Water Cooled, Evaporative-WATER COOLING EVAPORATORS-BLAST COOLING COILS-BLAST HEATING COILS

MARINE REFRIGERATION . . .

Continued from page 41

Gulf are also equipped for processing and quick-freezing of shrimp.

Two trawlers were recently equipped with a plant using the multiple process in which the packaged shrimp are frozen under pressure between two plates. Another installation uses the process of indirect brine freezing in which the shrimp are placed in a trough which is immersed in the brine. Air blast freezing has

been applied to three other trawlers.

Each of these methods has its advantages and disadvantages. The basis for judging any method of freezing is the resulting freshness, quality and appearance of the product after the freezing is accomplished.

We have not been able to determine as yet whether the "Deep Sea", the "Arcturus," or the other installations, have proven financially successful. However, there is no doubt that quick-freezing of fish at sea is practical engineering-wise.

With present methods of icing,

only the "top of the catch" is of high enough quality to be sold at a premium. With quick-freezing at sea properly applied, the entire catch should be of premium quality.

The application of fish-freezing at sea should offer interesting possibilities for the food industry—and the refrigeration industry—of this country.

A TIMELY PROMOTION . . .

Continued from page 33

ment they handled, and the services they were prepared to offer.

They were still stumbling about in search of the best means of accomplishing this end when Jerry Grosh struck up a chance acquaintance with a salesman for an advertising and promotional specialties firm. This salesman, in the course of casual conversation, mentioned his line of business to Grosh, and when the latter expressed interest the salesman promptly proceeded to sell him on the idea of using one of the company's stock direct mail promotional pieces.

The particular series selected features the nationally syndicated cartoons of J. R. Williams, whose "Bull of the Woods", "Out Our Way", and "Right Around Home" cartoons have made him famous the country over. Each piece in this monthly mailing is prepared in the form of a four-page folder.

On the first page of this folder, above the imprint of Merchants' Refrigeration & Equipment Co., is one of Williams' "Bull of the Woods" cartoons in full color. Beneath the company's imprint is the calendar for that particular month, flanked by those of the preceding and following months.

Center spread of this promotional brochure is devoted to a layout of four more Williams cartoons in straight black and white.

Back page of the folder is devoted to the company's own sales message, which is prepared by Grosh and Hawthorne themselves and which is changed each month. This back page copy on the initial mailing took the form of an introductory message explaining the monthly nature of the mailings and soliciting the business of the recipient. This message bore the signatures of both Grosh and Hawthorne.

The back page of all subsequent

The BIGGEST NEWS in Refrigeration

The Sensational New

McINTIRE D-C FILTER-DRIER

● DOUBLE CAPACITY

Has twice the moisture absorbency of any other conventional drier, size for size. Stays on the line longer, has reserve capacity for any emergency. Saves call backs, saves cost.

● EASY INSTALLATION ON THE LIQUID LINE

Dries effectively at refrigerant temperatures up to 150° F. No need to install in hard-to-get-at cold places.

● FIRST-PASS DRYING

Absorbs and holds all moisture on contact. A single pass of refrigerant through D-C Filter-Drier is dehydrated to -60° dew point. No repeated warming of valves or cycling necessary. Wet systems restored to immediate operation.

● PROGRESSIVE FILTERING

Large and efficient filtering areas assure clean systems and free flow.

The new McIntire D-C Filter Driers may be used with all refrigerants. They are available at leading wholesalers in factory-sealed and cartridge types. Try D-C Filter-Driers on a few jobs and you'll never again put up with the uncertainties and inconvenience of other types. Literature sent on request.

MADE by the MAKERS of DFN MOISTURE INDICATORS and MOISTURE CONTROL UNITS

McINTIRE CONNECTOR COMPANY

257 JEFFERSON ST., NEWARK 5, N. J.

mailings carries a specially prepared sales message on some particular product handled by the company. Maximum attention is paid to timeliness in the selection of the product to be plugged.

This cartoon calendar promotion is being sent to a selected mailing list of about 500 names each month. Grosh and Hawthorne compiled this list carefully by combing the classified section of the local telephone book and selecting the most promising names under such categories as groceries, restaurants, taverns, meat markets, packing plants, wholesale food distributors, lodges and fraternal organizations, county purchasing agents, locker plants, and any other groups which seemed to offer a natural market for the company's line of commercial refrigeration and air conditioning equipment.

OBSERVES 75TH YEAR

The Knapp Supply Co., refrigeration, plumbing and heating equipment wholesaler of Muncie, Ind., has issued a booklet commemorating its 75th anniversary in the wholesale supply field. The booklet traces the development of the company since its founding in 1874 as Alex A. Knapp & Co. Present head of the company is W. E. Price, and Wm. Gibson is manager of the refrigeration supplies department.

VAN VLEET RETIRES

R. M. Van Vleet, manager of the refrigeration control division of Cutler-Hammer Co., Milwaukee, has retired after 45 years of service with the company.

FIRM FORMED TO BUILD WALK-IN COOLERS

Sunshine Refrigeration Co. has been formed in Boynton, Fla., to engage in the manufacturing of custom-built walk-in refrigerators for butchers, florists, and other commercial users. The firm also handles other types of commercial refrigeration equipment.

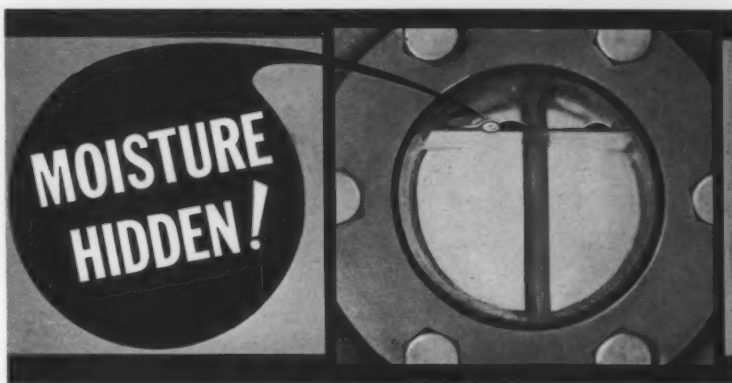
Headed by Adam Schneider and Jim Fowler, the company is located in the old Farmers Implement & Supply building.

LANGSENKAMP EXPANDS KENTUCKY OPERATIONS

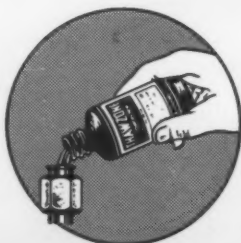
F. H. Langsenkamp Co., refrigeration supplies wholesaler with headquarters in Indianapolis, Ind., has established a sub-branch at 208 Woodland Ave., Lexington, Ky.

W. L. McCloud will be in charge of this sub-branch, which will carry a full stock of small parts but will draw its heavy equipment from the regular Langsenkamp branch in Louisville.

BUY FROM YOUR REFRIGERATION WHOLESALER



IT
**CAN'T
HAPPEN**
IF YOU USE THE
MOVING DEHYDRANT
... **THAWZONE**



THAWZONE*
PATENTED
The FLUID DEHYDRANT

The above photograph shows water drops trapped in a glass-end receiver and floating on the refrigerant. When this happens, you're in for trouble.

This hidden water can be reached ONLY by a dehydrant that CIRCULATES with the refrigerant. That means THAWZONE. The dehydrant MUST go to the water. Trapped water will NEVER go to a stationary dehydrator.

What happens when Thawzone on its never-ending rounds encounters trapped water? Just this: The water isn't water any more. It is changed to inert, oil-soluble compounds that are absolutely harmless to the refrigerant or to the system itself.

Use Thawzone in new, old or re-conditioned systems. Economical . . . one shot is ordinarily effective. Easy directions on bottle.

Your wholesaler has **THAWZONE**

Highside Chemicals Co.,
COLFAX AVE. CLIFTON, N. J.

*Trade Mark Reg. U. S. Pat. Off.

6th All-Industry
**REFRIGERATION AND
AIR CONDITIONING**
Exposition

NOVEMBER
14 to 18
1949

ATLANTIC CITY, N. J.
PROMOTE YOUR LINE IN '49
FOR BIGGER SALES IN '50!

WELL WATER . . .

Continued from page 45

five existing supply duct connections. In the breakfast room, new supply grilles of adjustable deflection type were provided for the seven locations. The existing exhaust duct was re-routed so as to carry return air to the equipment room.

In the equipment room itself, a new drain pan was furnished. The existing filter bank was reused, and direct expansion coils were installed in place

of the previous water coils. Speed of the fan was changed to suit the new cfm requirements simply by changing the sheave and belts.

Control of compressor operation in the new system is by a thermostat mounted in the coffee shop and operating two pneumatic electric controls, one for each compressor unit. On a rise in temperature, the control settings cut in one compressor unit. If the temperature continues to rise, the second compressor unit is put in operation. On a drop in temperature, or when the thermostat is satisfied,

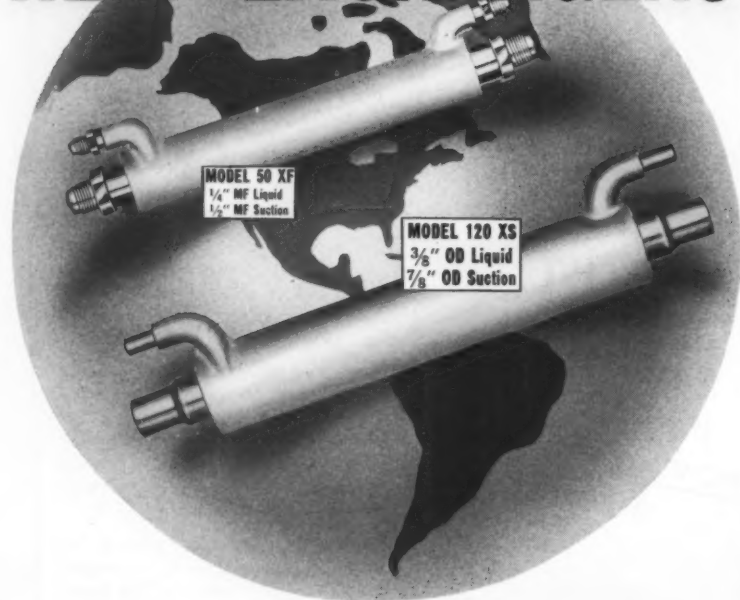
either one or both of the units is cut out as required.

Actual equipment used in this installation consisted of two G-E 50-hp Freon-12 compressor units, complete with pressure controllers and equipped with two G-E reduced voltage motor starters.

Two G-E fin type cooling coils 29 $\frac{1}{4}$ x 120 inches in size and four rows deep also were installed. These coils were equipped with direct expansion valves. Two 50-ton liquid line solenoid valves, complete with strainers, also were incorporated into the system.

A 100-ton evaporative condenser complete with blower and blower motor, water pump and water make-up device, and a 9-cu. ft. liquid refriger-

HEAT-X CAST ALUMINUM HEAT EXCHANGERS



If your heat exchangers bear the name of HEAT-X you have (1) Minimum pressure drop. (2) No internal joints . . . no by-pass. (3) No oil trapping. (4) Compactness. (5) Efficiency. (6) Sizes to match your condensing units. (7) Simple selection data and ratings. (8) Straight through suction connection. (9) Minimum liquid charge. (10) Full range of capacities.

"A Heat Exchanger is Only as Good as its Freedom From Pressure Drop."

THE HEAT-X-CHANGER CO., INC.
415 Lexington Avenue, New York 17, N. Y. Brewster, N. Y.

PATIENTS in the obstetrics section of Mound Park Hospital, St. Petersburg, Fla., are resting more comfortably now thanks to the combined efforts of the Junior Woman's Club and James Construction Co., local air conditioning contractor.

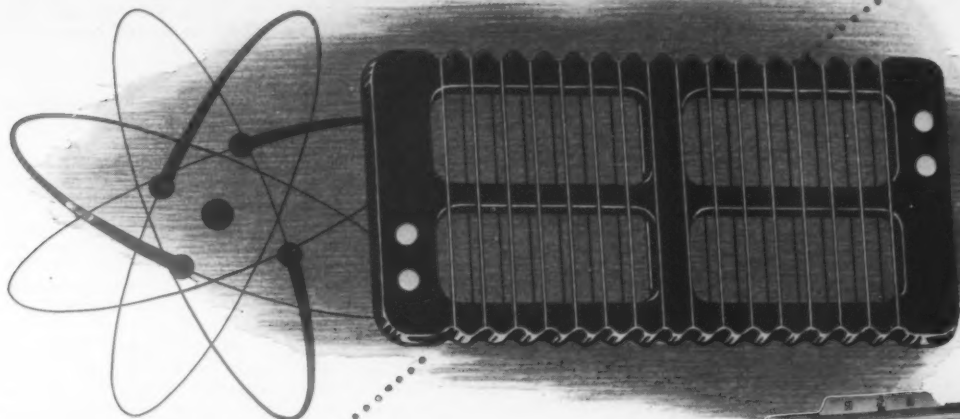
Three air conditioning units have been placed in this section of the hospital by the woman's organization. To make this civic contribution possible, James Construction Co. not only supplied the units at a discount but also installed them without charge.

ant receiver with valve completed the major equipment in the installation. Two complete sets of Korfund vibration eliminators were installed, and all duct lines exposed to the weather, as well as refrigerant suction lines in the plenum room, were insulated and waterproofed.

The new system was based on the following design conditions: outdoor temperature—95 F dry bulb, 78 F wet bulb; indoor temperature—80 F dry bulb, 67 F wet bulb. Anticipated occupancy load was broken down as follows: coffee shop, 140 persons; breakfast room, 90 persons; dining room, 137 persons. Also included in the calculations were some 16,000 watts of lighting and cooking appliances using an estimated 6000 cu. ft. of gas per day. Ventilation air was set at 12,300 cfm and condensing temperature at 105 F.

Heat gain from all sources was analyzed as follows: internal load from all three conditioned rooms, 46.2 tons; ventilation load, 45.5 tons; motor load, 1.7 tons. This constitutes a total imposed load of 93.4 tons.

You'll Get Best Results with Honeywell Electronic Air Conditioning Control



a simple coil of wire does it all

NO MOVING PARTS



New Honeywell ELECTRONIC Thermostat

WHEN you use Honeywell Electronic Control for your heating, ventilating or air conditioning installations, you know your equipment will produce the finest results of which it is capable. Electronic Control is up to one hundred times more sensitive than existing types of control, and yet it offers extreme simplicity with much more flexibility in its applications.

The Honeywell Electronic thermostat is merely a simple coil of wire with no moving parts—nothing to wear out. And see how other factors are simplified! Basic circuits are the same for all types of applications. Fewer control units are needed. A single thermostat, for example, can be used for both heating and cooling with automatic change-over from one situation to the other at any selected temperature level.

It means a simple, practical answer to many problems for which there has previously been no clear-cut solution. So watch Honeywell Electronic Control carefully. It's opening the way for new horizons in the industry. Minneapolis-Honeywell, Minneapolis 8, Minnesota. In Canada: Leaside, Toronto 17, Ontario.

**SIMPLE IN OPERATION
FLEXIBLE IN APPLICATION
ACCURATE IN CONTROL
AND SUPERSENSITIVE**

MINNEAPOLIS
Honeywell
CONTROL SYSTEMS

73 BRANCHES FROM COAST TO COAST WITH SUBSIDIARY COMPANIES IN: TORONTO • LONDON • STOCKHOLM • AMSTERDAM • BRUSSELS • ZURICH • MEXICO CITY

and AIR CONDITIONING • JULY, 1949

SPECIFY
DELAVAN
WHEN YOU NEED

PISTONS



A complete line of
Compressor Replacement Parts

DELAVAN
MANUFACTURING
COMPANY

3009 SIXTH AVENUE
DES MOINES 13, IOWA

NEW



*** SPEED-ANGLE**
CORNER CUTTERS

Offers greater leverage—less effort—has tempered steel blade adjustable 22½° to 90°. Blade is replaceable. Reasonably priced. Also available with fixed 90° blade.

*Name Copyrighted

JARROW PRODUCTS
420 N. LA SALLE ST. CHICAGO 10, ILLINOIS

Useful LITERATURE

The publications listed below are available to readers without charge. Simply list on the postcard in this issue the key numbers of the items you wish to receive. Your requests will be forwarded directly to the companies concerned.

424—Condensing Units . . . A comprehensive 8-page chart (Bulletin 204-5) illustrating the complete line of Mills compressors and condensing units. Includes detailed specifications and essential data on air cooled units ranging from ¼ to 3 hp, water cooled units from ½ to 10 hp, and combination units from ½ to 3 hp. Available from Mills Industries, Inc.

425—Pump Controls . . . Booklet entitled "Precision Control for Pumps" describes wide range of Cutler-Hammer controls for domestic, commercial, and industrial water systems. Includes 37 pages of specialized data outlining such controls. Available from Cutler-Hammer, Inc.

426—Refrigeration Fans . . . A 4-page bulletin illustrating and describing a complete line of refrigeration fans for commercial and domestic applications. Features new high pressure commercial refrigeration fan. Specifications and prices of each unit are listed. Available from Maurey Mfg. Corp.

427—Ammonia Condenser . . . A 12-page catalog (No. 21-C) illustrating, describing and listing specifications of the Acme ammonia shell and tube condenser. Dimensional charts and tables are provided, capacity ratings are listed, and accessories are described. Available from Acme Industries, Inc.

428—Valves and Accessories . . . A 16-page catalog (No. 99) covering all Henry products with the exception of fittings. Shows illustrations, specifications, and prices of packless and packed valves, relief and check valves, strainers and driers, and liquid level gauges for refrigeration and air conditioning applications. Available from Henry Valve Co.

429—Capacitance Checking . . . An illustrated folder on the Aerovox capacitance and resistance bridge for quick checking of capacitance, resistance, power factor, shorts and opens, leakage, etc. Illustrations and text describe these various tests, as well as the instrument itself. Available from Aerovox Corp.

430—Brush Lifting Motors . . . Advantages and applications of repulsion start induction brush lifting single phase motors are listed in this 8-page brochure (Form 942) covering a line of such motors

manufactured by Century Electric Co. Various models are pictured. A cutaway view emphasizes construction features.

431—Booster Compressors . . . The Worthington line of ammonia booster compressors (V and W type single-acting, HA Series) are illustrated and described in this 8-page bulletin (C-1100-B34). Applications are cited; engineering features are stressed; specifications are itemized.

432—Charging Hose . . . An illustrated pocket-size folder describing a refrigerant charging hose of new type construction utilizing a neoprene packed corrugated steel core. The bulletin shows construction in detail. Sizes and prices are listed. Available from Chicago Metal Hose Corp.

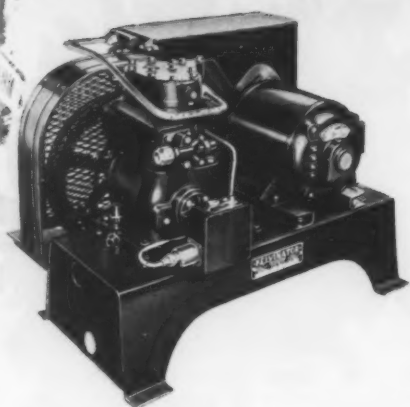
433—Steam Coils . . . An informative 36-page bulletin (No. 495) covering a complete line of steam coils. Designed for quick reference and use, with simplified descriptions, dimensional data, capacity ratings, and coil selection charts. Includes much supplemental technical information. Available from Marlo Coil Co.

434—Frozen Food Cabinet . . . A promotional broadside illustrating and listing specifications of an improved "Acco" frozen food cabinet. A cutaway view shows construction features. Available from Authorized Cabinet Co.

435—Centrifugal Pumps . . . An 8-page bulletin (No. 119) illustrating, describing, and giving specifications of a line of centrifugal pumps for handling such solutions as water, brine, condensate, methyl chloride and liquid ammonia. Detail diagrams are shown. Available from Chas. S. Lewis & Co., Inc.

436—Moisture Separator . . . A specifications sheet describing the nature, advantages, and theory of operation of a mechanical moisture separator designed to prevent expansion valves and capillary tubes from freezing up. Applications of this device are outlined. The complete unit and all its component parts are pictured. Available from Tech Laboratories, Inc.

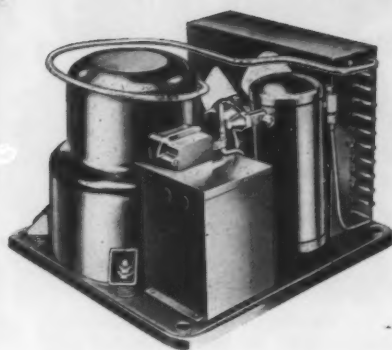
**BUY FROM YOUR
REFRIGERATION WHOLESALER**



Kelvinator Open Type Condensing Units
($\frac{1}{4}$ H.P. to 1 H.P.)



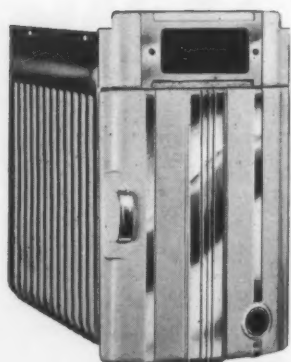
Kelvinator Water Coolers
(Pressure and Bubbler types)



Kelvinator Sealed Type Condensing Units
($\frac{1}{4}$ H.P. to $\frac{1}{2}$ H.P.)

Kelvinator— *great name—for greater sales!*

Again and again, profit-minded refrigeration men choose Kelvinator—for products that are trouble-free in performance . . . competitive in price . . . backed by the name that wins an immediate welcome with users everywhere. Yes! Kelvinator is the name that *always* sells, *always* satisfies. See these quality products at your nearest Kelvinator supply depot. All types and sizes available for immediate shipment. Write, phone or stop in for quick service or helpful information. Kelvinator, Division of Nash-Kelvinator Corporation, Detroit 32, Michigan.



Kelvinator Stainless Steel Evaporators



Kelvinator Silica Gel Driers

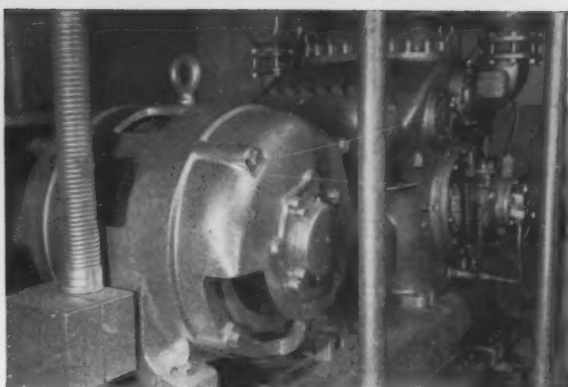


Kelvinator Compressors
($\frac{1}{6}$ H.P. to 5 H.P.)

DEPEND ON KELVINATOR FOR ALL YOUR REFRIGERATION NEEDS
and AIR CONDITIONING • JULY, 1949



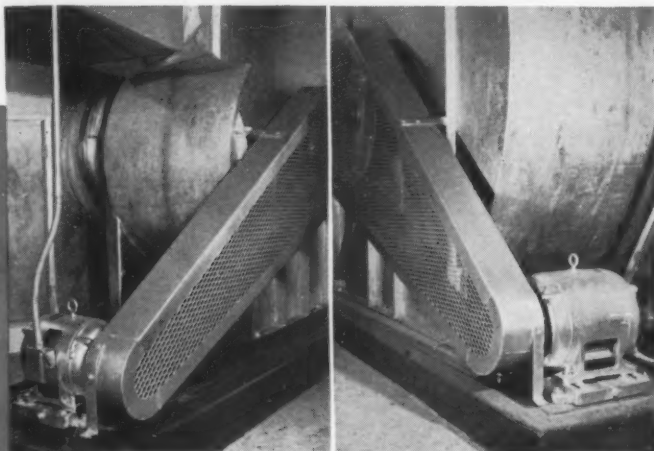
• Two Century 10 Horsepower Squirrel Cage three phase motors driving pumps—first is condenser water pump to dissipate heat; second pump circulates the cooled water.



• 100 Horsepower Century Squirrel Cage motor driving a refrigeration compressor.

**Thousands of Satisfied
Users Specify**

Century **MOTORS -** **For All the Equipment on Air Conditioning Installations**



• One 30 Horsepower and one 5 Horsepower Squirrel Cage motor driving cool air supply fans.



-622

They Start Quietly and Operate Quietly

Century motors are built to match the requirements of the equipment they drive. Multi-speed squirrel cage motors provide flexibility—wound rotor motors provide a wide range of speed control. A complete line of constant speed squirrel cage motors handles all normal installations.

Century Splash Proof frames protect the motor against the hazards of dripping or splashing liquids, indoors or outdoors.

Totally enclosed fan cooled frames furnish protection against destructive dirt that packs.

For atmospheres containing explosive gases and dusts, explosion proof frames are available.

Century builds a wide range of types and kinds of electric motors, in sizes from 1/6 to 400 horsepower, for operation on single phase, polyphase and direct current.

Specify Century motors for all your electric power requirements.

Popular types and standard ratings are generally available from factory and branch office stocks.

CENTURY ELECTRIC COMPANY

1806 Pine Street • St. Louis 3, Mo.

Offices and Stock Points in Principal Cities



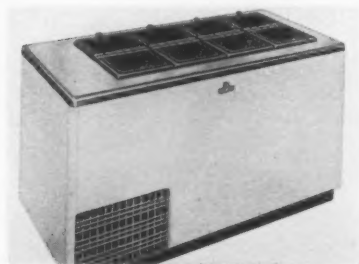
NEW Products

For further information on any of these products, simply list on the postcard provided in this issue the key numbers of the items in which you are interested. Your requests will be forwarded directly to the companies concerned.

Ice Cream Cabinet • • • P-424

Product: Eight-hole ice cream cabinet.

Manufacturer: Savage Arms Corp., Refrigeration division, Utica, N. Y.



Features: Refrigerated partitions separate each compartment. All steel construction, with electrically welded angle iron frame and replaceable steel panels on all four sides. Insulated with genuine vegetable corkboard.

Double-Decker Case • • • P-425

Product: "Twindex Frozel" frozen food and ice cream cabinet.

Manufacturer: Weber Showcase & Fixture Co., Inc., Los Angeles, Calif.



Features: Open type self service merchandising and display case for frozen foods and ice cream. Has two separate decks, with sub-zero temperatures maintained in each. Top deck has slanting mirrored background to reflect flat displays.

Valve Plates • • • • • P-426

Product: Replacement valve plates.

Manufacturer: Delavan Mfg. Co., Des Moines, Iowa.

Features: New additions to an established line of compressor replacement parts are a number of new valve plates including exact duplicates of practically all valve plates for the most popular Kelvinator models. These valve plates are furnished with gaskets at no extra cost.

Condensate Unit • • • P-427

Product: Model No. 2 condensate disposal unit for providing efficient disposal of small quantities of condensate from air conditioning equipment.



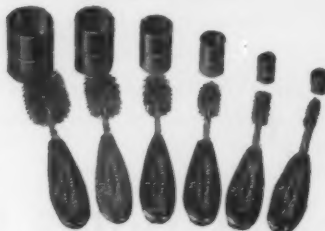
Manufacturer: Eastern Industries, Inc., New Haven, Conn.

Features: Fully automatic control; compact, rustproof construction; quiet operation. Readily adaptable to all standard air conditioning units. Equipped with bronze centrifugal sump type pump, 1½-gallon brass receiver, float operated switch, check valve on outlet side of pump, and 1/40-hp, 3450 rpm, single phase, 60 cycle, 115 volt, totally enclosed ball bearing capacitor start motor. Encased in black enameled sheet brass cabinet 5¼ inches wide, 9⅞ inches long, and 12-5/16 inches high. Weighs 21 pounds.

Tube Cleaning Brushes • P-428

Product: Specialized wire brushes for cleaning both inside and outside of copper tube and pipe ends preparatory to fitting or brazing.

Manufacturer: Schaefer Brush Mfg. Co., Milwaukee, Wis.



Features: Eliminates use of sand or emery paper and does more effective cleaning job. Insures proper soldering or brazing surface. Faster and easier to use, also less expensive. Eliminate cut and sore fingers likely to result from use of sandpaper or emery cloth. Complete assortment



of brushes available in all popular sizes from ¼-inch to 2½-inch, including copper tube fitting brushes for cleaning inside of copper fittings and a highly specialized line of ring-mounted brushes for cleaning outside of copper pipe. All brushes made of strong, resilient, rustproof stainless steel wire.

Beer Dispensing System • P-429

Product: "Superflow" draft beer dispensing system.

Manufacturer: Superflow Div., Ray Kromer, Inc., Cleveland, Ohio.

Features: Three-purpose packaged unit cools beer as fast as it is drawn, cools chilled water that circulates around lines and faucets, and supplies 35 F water to the coil designed to hold the storage cooler at 40 to 45 F. Has only one refrigeration cycle and 61% less parts than the average system. Every inch of line completely refrigerated; no chance for secondary fermentation or souring. Instantaneous cooling reduced keg temperature upon delivery. Low pressure operation affords instantaneous and complete cooling at proper

drawing pressures, drawing a 12-ounce glass in 6 seconds at only 16 pounds pressure. Only complete beer cooling system that operates without CO₂ or low pressure air. Perfect balance of temperature and pressure. Packaged equipment is factory assembled. Complete basement installation can be made in 6 hours.

Frozen Food Cabinet • • P-430

Product: Model AF 1149 "Freez-rite" frozen food merchandising cabinet.



Manufacturer: Bailey & Perkins

THE MOTOR SPEED... THE MOTOR H-P RATING

...are all you need to know

to select a safe, long-lasting Sprague motor capacitor replacement.

One glance at the motor nameplate and the simple tables in Sprague's Handy Guide To Motor Capacitors tells you the proper capacitor for practically all replacement jobs.

These time-saving tables are yours in two sizes—Sprague Guide C-900, a handy wall chart for the shop, and Guide C-901, a spiral-bound folder for pocket, tool kit, or work bench. Both have a greaseproof finish. These Guides are free. Write for yours today.

SPRAGUE PRODUCTS COMPANY, North Adams, Mass.
(Distributors' Division of the Sprague Electric Co.)

SPRAGUE CAPACITORS



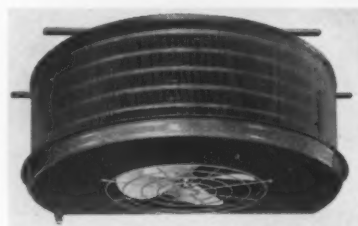
Co., Detroit, Mich.

Features: Food compartment liner refrigerated by divider plates. Powered by 1/4-hp sealed condensing unit using Freon 22. Refrigerant flow controlled by capillary line, heat exchanger assembly, which increases the efficiency of condensing unit. Temperature controlled by factory adjusted thermostat. Welded steel cabinet finished in white baked enamel with black plexiglas and polished aluminum trim. Superstructure has glass air shield 3 inches high and angled plate glass mirror. Fluorescent lighting. Cabinet has 4 inches of insulation and capacity of 11 cu. ft. (480 standard packages).

Ceiling Units • • • • • P-431

Product: "Turret" and "Half-Turret" (illustrated) models of "Humi-Temp" unit coolers.

Manufacturer: Larkin Coils, Atlanta, Ga.



Features: Four models of each type available. Turret unit forms complete circle; half-turret forms 205° arc. Both units mount next to ceiling. Half-turret is designed so that it can be placed adjacent to enclosure's wall. Fan pulls air in bottom of unit and forces it out over and through rounded cross-fin coil. Exclusive "venturi" lip on bottom drain pan designed to prevent short-circuit of cold air. Largest capacity unit is only 13 inches deep; smallest is 7 1/2 inches deep. Unique air diffuser assures uniform distribution of air from top of coil to bottom. Hinged grill permits quick access to fan and valves.

Continuous Freezer • • • P-432

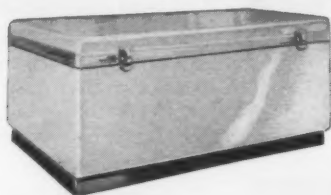
Product: Model 66 Taylor continuous service ice cream freezer.

Manufacturer: Tekni-Craft, Beloit, Wis.

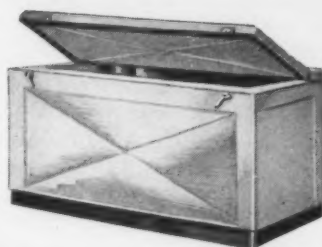
Features: Twin model with self-contained compressor. Will serve 360 5-cent portions per hour. When both



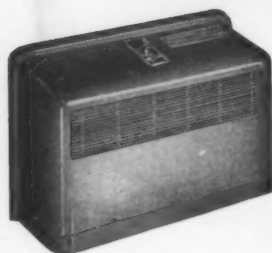
THIS NAMEPLATE
identifies a better product



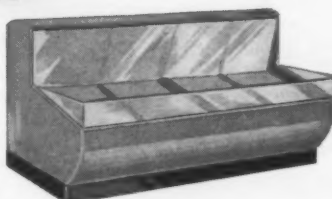
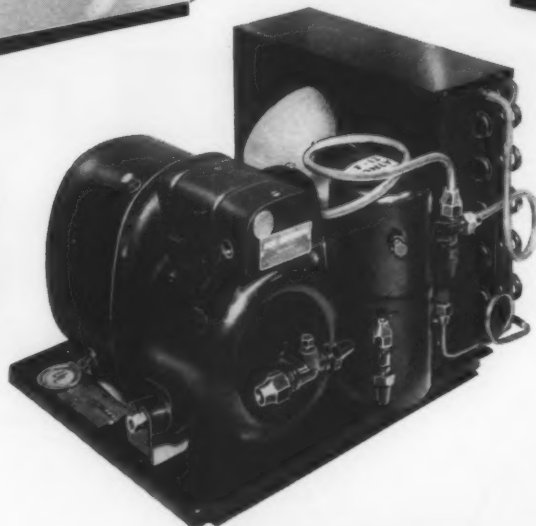
FARM AND HOME
FREEZERS



MILK COOLERS



ROOM COOLERS



STORE FIXTURES



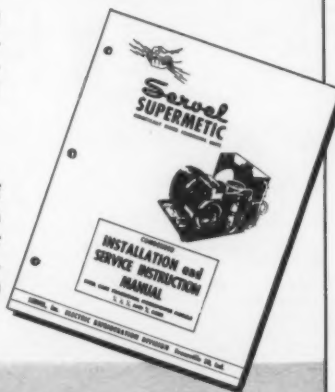
VENDING MACHINES

"Powered by Servel"—Every day this phrase is meaning more and more to the manufacturers of electric refrigeration and air conditioning equipment, to the servicemen who install units, and to the refrigeration engineers who plan the installation. That phrase is their assurance of quality, economical performance and long life. No line of refrigeration units has made the rapid strides that Servel Supermetics have made in the past few years. *Powered by Servel* is your customer's assurance that he has the best.

One thing that stands out in the success story of Servel Supermetics is the commendable job that has been accomplished by refrigeration servicemen and maintenance engineers in good planning of their installations. Proper use of well-designed equipment is a final answer to a good job.

* * * * *

Every refrigeration service engineer should have a copy of the Servel Supermetic Installation and Service Instruction Manual. It contains complete instructions for the proper installation and maintenance of Servel condensing units. Write for free copy today. Address Servel, Inc., Division ER, 3907 Kentucky Avenue, Evansville 20, Indiana.



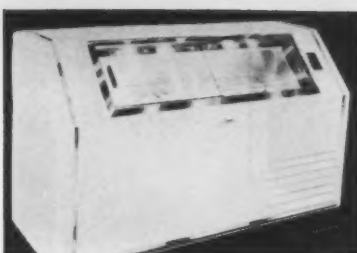
**Servel Supermetic Units
Are Available In All Sizes**

STANDARD COMMERCIAL			
HORSEPOWER	MODEL	NO. CYL.	CONDENSER TYPE
1/4	H2N	2	air-cooled
1/2	H2M	2	air-cooled
3/4	H2B	2	air-cooled
1	H2R	2	air-cooled
1 1/4	WH2R	2	water-cooled
1	H4F	4	air-cooled
1	WH4F	4	water-cooled
1 1/4	H4T	4	air-cooled
1 1/4	WH4T	4	water-cooled
2	H6R	6	air-cooled
2	WH6R	6	water-cooled
3	WH6J	6	water-cooled

* Most sizes available also in low- and high-temperature types.

Servel SUPERMETIC

heads are full, 108 portions are available for immediate service. Automatic controls keep product always ready for serving. Temperature held closely whether user is drawing off as fast as possible or not at all. Designed to produce cold, stiff, frozen custard, but may also be used for making ice cream with 100% overrun.



Self-Service Freezer • • • P-433

Product: Model 72-UF closed type "angle vision" self service frozen food merchandising cabinet.

Manufacturer: Fogel Refrigerator Co., Philadelphia, Pa.

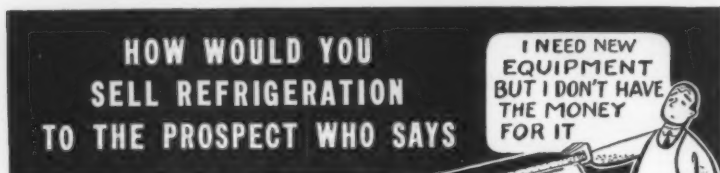
Features: Angled sliding glass doors make it possible for shopper to

see and select any package on display without stooping, stretching, or scrambling. Low overall counter height makes cabinet an ideal wrapping, check-out, or display counter when supplied with a counter top. Also well suited for wall or island use.

Packaged Conditioners • P-434

Product: "Central-Air" central station packaged air conditioners in eight sizes from 5 to 40 tons capacity.

Manufacturer: Baker Refrigeration Corp., South Windham, Me.



He is in the habit of paying his suppliers daily....



As a result, at the end of the month there is not enough left to pay large down payments and lump sum monthly payments.

Your Answer Is THE METER PLAN OF DAILY SAVINGS

Your Customer
Deposits
Just a Few
Quarters
a Day.



METER-MATIC COIN METERS ARE:

- LOW IN PRICE
- SIMPLE TO INSTALL
- FULLY GUARANTEED



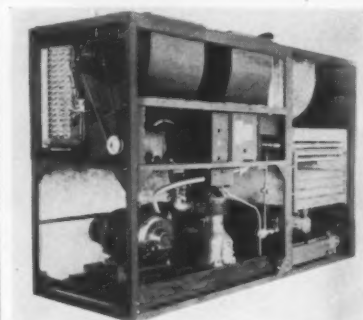
Meter-Matic DM6 Meter
Two Door Case

MAIL
THIS
COUPON
TODAY

INTERNATIONAL REGISTER CO.
2626 W. Washington Blvd.
Dept. 79-M, Chicago 12, Ill.

Please send me FREE: ☐ Meter Catalog
☐ Meter Plan for Selling Commercial Refrigeration.

Company Name
Address
City Zone State



Features: Provide all advantages of central station operation without high engineering and installation costs of custom built systems. Completely self-contained with fully automatic controls. Designed primarily for remote installation with wall ducts, but also practical for open installation where large single rooms, such as auditoriums, are to be conditioned. Provides for year-around operation, with addition of heating coils. Normally supplied completely assembled, but can be supplied in sections to facilitate passage through small entrances. Sizes range from 31 x 56 x 77½ inches to 60 x 93 x 150½ inches.

Ice Cream Freezers • • P-435

Product: Two new 6-quart ice cream freezers.

Manufacturer: Tekni-Craft, Beloit, Wis.

Features: Freezers have been designed especially for frozen custard, frozen malted, and soft ice cream production, direct from the freezer. Model 6FCR has self-contained hermetic condensing unit; Model 6F2R is a continuous service freezer having twin 6-quart freezers operated by a ½ hp unit. Freezers on both units

THE 49 V-BELTS IN GREATEST DEMAND

—in a Portable Assortment

Here in one convenient group are all the belts that can handle the majority of emergencies in the Refrigeration field.

These 49 Belts cover service on hundreds of domestic and commercial refrigeration units, ice cream machines, frozen-food plants, air-conditioning systems and other allied equipment. With this compact stock you can be ready with the exact belt needed.

Each belt has that unique U. S. Rubber development which provides greater pull and endurance—the Equa-Tensil Cord Section.

Order from your Jobber, or, for more information write Mechanical Goods Division, United States Rubber Company, 1230 Avenue of the Americas, New York 20, N. Y.



The compactness of the 8-hook panel enables you to keep the 49 belts right where you need them—in your truck—in your repair shop.

Top Rubber Cushion in closely-engineered balance with the lower section . . . to keep cool under constant stretch and turn.

Equa-Tensil Cord Section—all cords scientifically placed, each pulling its share of the load.

A sturdy level cushion for the Equa-Tensil Cord Section. Provides structural firmness for V-grooves and over the flat pulley of V-to-flat drives.

PRODUCTS OF

U.S. RUBBER
SERVING THROUGH SCIENCE

UNITED STATES
RUBBER COMPANY

are of direct expansion flooded type; shell is cork insulated, inner shell is of stainless steel, door of special alloy Dairy Metal. Equipped with Draw-Flex valve for easy filling of any size container. Beaters are of stainless steel, silver brazed. Automatic temperature control allows automatic batch freezing and maintenance of desired serving consistency in products.

Home Freezer • • • • • P-436

Product: Home freezer in 8 and 16 cu. ft. sizes.

Manufacturer: Wentink & Co., Grand Rapids, Mich.

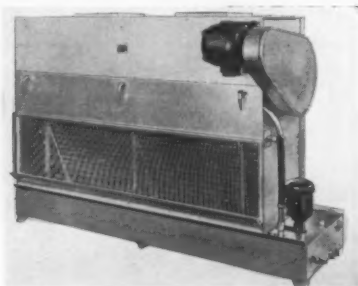
Features: Freezer is of steel and aluminum construction, and is insulated with gas-blown plastic insulation, impervious to water. A newly developed hinge permits snug-to-wall installation, since the lid moves forward as it opens and remains in a counter-balanced position. Push-button latches have been developed to replace conventional latches. Maple cutting board has been incorporated along with a storage compartment for wrapping and packing materials. Con-

trol is out of reach for children, but still easily accessible. Alarm system is also included. Liner is fabricated of aluminum with aluminum tubing brazed to side panels for fast freezing action. Whole front grille is removable, permitting access to unit without moving the freezer.

Evaporative Condensers • P-437

Product: New line of evaporative condensers with 5 to 40 tons capacity.

Manufacturer: Bush Mfg. Co., Hartford, Conn.



Features: Standard construction features include fiber-glass eliminator sections (in 20 to 40-ton units) for positive removal of entrained water droplets to prevent corrosion in fan section. Centrifugal pumps with integral vertically mounted motors (in 5 to 15-ton units) with inlet at bottom of sump to avoid binding. Pump, float valve, and strainer are easily accessible for service. Continuous tubing coil eliminates return bends. Entire coil assembly tested at 300-pound pressure and can be split into separate circuits when desired. Frame and sump pan hot-dipped galvanized after fabrication. Inside surfaces coated with bitumastic compound to prevent corrosion. Access doors are easily removable.

Gasketing Material • • • P-438

Product: "Chrome Lock" zinc chromate impregnated gasket material.

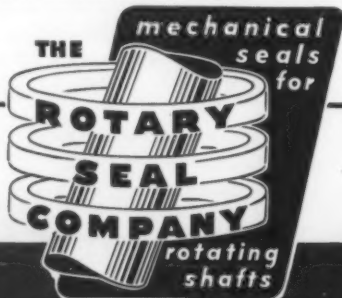
Manufacturer: Products Research Co., Glendale, Calif.

Features: Primarily a protective gasketing providing the exclusion or retention of air, water, dust and bulk conveyed materials. Available in tapes, sheets, and stampings for original or replacement use. Properties include definite corrosion prevention, electrolysis prevention between dis-

ROTARY SEAL REPLACEMENT UNITS

for Commercial, Semi-Commercial, Air Conditioning and Household Refrigerator Compressors.. Tested by time, proved by performance over 18 years.. *Simplicity in construction—easy installation—efficient operation—economy—you get every one of these important features in ROTARY SEALS!*

AVAILABLE IN
OVER 848
MODELS



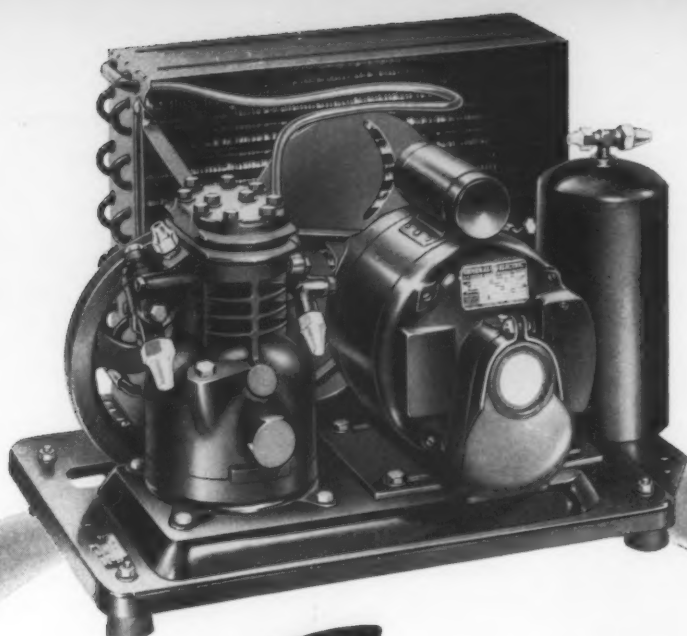
AT ALL
LEADING
JOBBERs

"Seal with

Certainty!"

**2020 NORTH LARRABEE STREET
CHICAGO 14, ILLINOIS, U.S.A.**

**CANADIAN AGENT: 2025 ADDINGTON AVENUE
MONTREAL 28, QUEBEC, CANADA**



PROVEN *Superiority*

CHIEFTAIN CONVENTIONAL CONDENSING UNITS

Millions of satisfied owners attest the superiority of Chieftain conventional-type refrigerating units. These owners find in Chieftain the qualities most desired in a condensing unit; smooth, quiet operation; dependable long-lasting performance; low first cost.

Chieftain conventional condensing units are sold through jobbers, dealers and servicemen. The line covers a wide range of applications, with units available in practically any desired capacity, for either self-contained or remote installation.

Illustrated is the Chieftain $\frac{1}{2}$ horsepower twin. Mounted on a flat pressed steel base, the unit dimensions are kept to a minimum to simplify installation in self-contained refrigerating equipment of small unit compartment design. Models available for every $\frac{1}{2}$ horsepower application . . . small walk-in and reach-in coolers, large beverage and water coolers, commercial cases, large frozen food and ice cream cabinets, etc.

Write today for complete information and descriptive literature.



TECUMSEH PRODUCTS COMPANY

Tecumseh, Michigan

EXPORT DEPARTMENT: 2111 WOODWARD AVE., DETROIT 1, MICHIGAN

*World's largest
independent producer
of Compressors and
Condensing Units*

similar metals, pressure sensitive resistance, non-oxidation, great compressibility, and complete resistance to water and saline solutions.

Ice Cube Maker • • • • P-439

Product: "Penguin" ice cube maker.

Manufacturer: Refrigerated Equipment Sales Corp., New York City.



Features: Freezing compartment holds 24 quick-release trays providing 336 cubes at one freezing. Re-

movable service storage container of open-sleeve type is of heavy gauge stainless steel and holds 336 cubes, or one complete freezing. Separate door of storage compartment eliminates opening of freezer section to get reserve cubes. Each plate is full flooded type and metallized throughout. Insulated with 4 inches of cork and fiber-glass. Fully welded steel construction. Equipped with expansion valve and temperature control. Powered by 1/4-hp condensing unit, open or hermetic. Aligns with other bar fixtures. Equipped with accessible drain for simplified cleaning after defrosting.

Bakery Cooler • • • • • P-440

Product: "Flow Control" water conditioning unit for bakeries.

Manufacturer: Filtrine Mfg. Co., Brooklyn, N. Y.

Features: Completely self contained water conditioning plant that cleans and dechlorinates water as well as providing constant temperature control, thereby delivering bakery water as completely standardized as dry ingredients. Integrated filter-dechlorinators eliminate all trace of

chlorine and other taste characteristics and remove microscopic particles that cause discoloration or



reduce clarity. Assures temperature uniformity in every drop of water used in dough-mix or mixer jacket. Water can be reduced as low as 34 F and as much as 60 gallons can be drawn off in 2 minutes with no change in temperature. Uniformly chilled water for subsequent batches is rapidly accumulated. Available in a wide range of sizes and capacities.

SALES POSSIBILITIES EVERYWHERE

The complete Tyler line of welded-steel Commercial Refrigerators and Display Cases meets all requirements of food stores, markets, super-markets, hotels, restaurants, tav-

erns, bakeries, florists, cafeterias, colleges, diners, drugstores, delicatessens, hospitals, institutions—anywhere perishables are stored or sold. Tyler Fixture Corp., Niles, Michigan.

TYPICAL TYLER CASES

Tyler Open Meat and Dairy Cases

Tyler Open Vegetable Cases

Tyler Meat Display Case

Tyler Open Three-Shelf Meat and Dairy Cases

Tyler Dairy Case

Dry Cold Beverage Cooler

Airline Shelving

Tyler Frozen Foods Display Case

Tyler Reach-In Box

Tyler Walk-In Cooler

Tyler Wall Dairy Box

Tyler Florist's Refrigerator

TYLER

FOR FOOD REFRIGERATION

COMMERCIAL SALES . . .

Continued from page 38

cials, who had been opposing the measure for some time.

Under the new ordinance, grocers may handle frozen foods at retail as long as they have a display refrigerator which will maintain a temperature of -15 F. Many stores in the area reportedly plan to install frozen foods departments under the new set-up.

JORDON OFFERS FOOD PROTECTION POLICY

Two new protection plans covering frozen food spoilage and condensing unit warranties have been put into effect by Jordon Refrigerator Co., Philadelphia.

Under the food protection plan, which applies to products leaving the factory on and after May 16, purchasers of both home freezers and commercial frozen food merchandiser cases are covered, without additional charge to them. The coverage protects against food loss due to breakdown or failure of the mechanical system, or failure of the cabinet to maintain proper freezing temperature.

Purchasers of cabinets up to 16 cu. ft. in size are protected against food spoilage up to \$200; purchasers of cabinets up to 25 cu. ft. are protected up to \$300.

A new five-year warranty plan covering all factory installed hermetically sealed compressors in self-contained refrigerators, freezers, display cases, and beverage coolers also went into effect May 16. The plan guarantees free replacement of the compressor if found to be inoperative during the five-year period, and is provided at a flat rate of \$5, regardless of the size of the condensing unit.

MAGNETIC DISPLAY CLIP AIDS PRICE TAGGING

A new magnetic display clip called "Maggie" has been introduced by Magnetic Merchandising, Inc., to solve the problem of placing and holding price tags, identification cards, and product feature cards on any merchandise made of steel or packaged in tin or steel containers. You simply slip the card in the clip, and the magnet holds it anywhere on the product.

These clips are said to adhere permanently and firmly to steel surfaces, even though covered with enamel, paint, or paper labels. One clip easily holds a 5x8-inch card, while two or more can be used to hold larger cards. Cards can be easily removed and replaced. The clips are sold in boxes of 24 at \$3.95 per box.

COMMERCIAL FIRM IN LARGER LOCATION

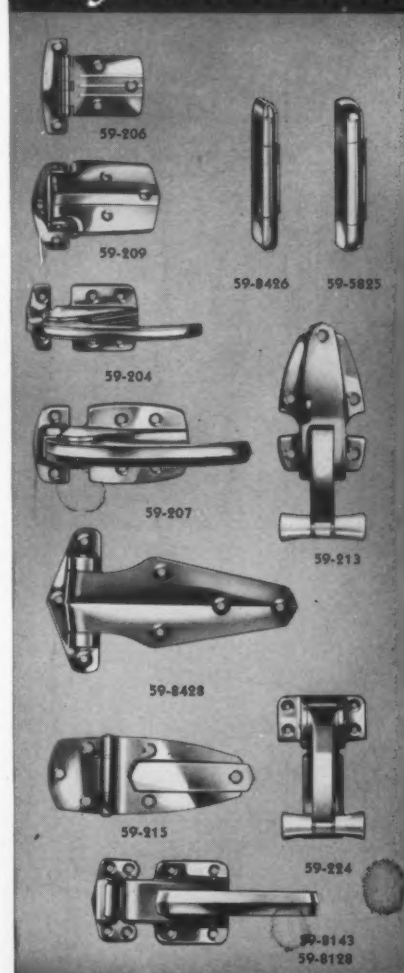
Johnnie Rush's Cafe Supply & Equipment Co., commercial refriger-

ation dealer, has announced the opening of its new quarters at 720 Bolton Ave., Alexandria, La. The firm's slogan is: "We sell everything but the food". It handles reach-in and walk-in refrigerators, display cases, commercial freezers and refrigerators.

HANDLES FLEETWOOD

Albany Garage, Albany, N. Y., distributor of refrigeration equipment, has been appointed distributor for the Fleetwood line of refrigerated display equipment in 13 counties in the upper eastern New York state area.

REFRIGERATOR HARDWARE by NATIONAL LOCK...



DESIGNED FOR A
VARIETY OF USES

Extensively field-proven on commercial and domestic applications, these matched designs of chromium plated refrigerator hardware consistently "ring the bell" with users. Ideal for Reach-in Cabinets, Display Cases, Back Bars, Florists Boxes, Bottled Beverage Coolers, Draft Beer Equipment, Coin-Operated Refrigerated Dispensing Machines, Milk Coolers, Low Temperature horizontal or vertical Cabinets, Stokers and many other units of refrigeration equipment.

Ask your jobber for complete information and prices.

NATIONAL LOCK COMPANY

ROCKFORD • ILLINOIS

REFRIGERATOR HARDWARE DIVISION

CONTRACTORS . . .

Continued from page 43

tion equipment.

Brewer has been with the contracting organization only since his return from the armed forces. He was with Warner & Swasey Co. for two years before the war.

Active in professional circles, Brewer was recently elected treasurer of the Cleveland Chapter of the American Society of Refrigeration Engineers.

DETROIT CONTRACTOR REPORTS NEW JOBS

Installation of several air conditioning systems both for control of temperature and humidity in industrial processes and for human comfort is reported by Mechanical Heat & Cold, Inc., Detroit, engineering contractor and Westinghouse cooling equipment distributor.

Process air conditioning installations include Ford Motor Co.'s Mound Rd. plant, Safran Printing Co., and Gelatin Products Div. of R. P. Scherer Corp. Comfort cooling in-

stallations include the offices of Excello Corp. and the Bagley branch of National Bank of Detroit. Additional cooling equipment also is being put into Hund's restaurant.

NEW CONTRACTOR GROUP IN SPRINGFIELD, ILL.

The Illinois secretary of state's office has issued a charter for a non-profit corporation to the Air Conditioning & Refrigeration Contractors Association, First National Bank building, Springfield, Ill. Incorporators of the trade association are John C. Turner, Ivan J. Falconer, and Arthur L. Hammond.

CHICAGO CONTRACTORS CHANGE THEIR NAME

In line with the change in name of the national association, "Refrigeration and Air Conditioning Contractors Association of Chicago" has been adopted as the new name of the former Refrigeration Contractors Association of Chicago. Like the national association, members of the Chicago group felt that inclusion of "Air Conditioning" in the name would more clearly define the industries in which its members are engaged.

WILLIAM BROOKS HEADS CANADIAN CONTRACTORS

William Brooks of Toronto was elected president of the Association of Refrigeration Contractors (Canada) at the annual meeting of the organization held recently in the Frontenac Arms Hotel, Toronto.

Other officers elected include R. J. McCabe, Hamilton, vice president; Chas. Racioppa, Toronto, treasurer; O. B. Frayne, Toronto, secretary; C. W. Moore, Hamilton, sergeant-at-arms.

J. H. Stoliker, Hamilton, was named executive secretary of the organization, with headquarters at 125 Bold St., Hamilton.

Directors, in addition to Brooks and McCabe, are Jas. Spence, Hamilton; R. Shroder, Toronto; I. W. Thompson, Toronto; George Tordiff, Toronto; and Stoliker.

Patterned after the National Association of Refrigeration Contractors in the U. S., the Canadian association was formed in 1947, with Don Fowler as its first president. J. H. Stoliker, now executive secretary, was president in 1948.

Earnings HIGH...investment LOW



Only the 50 most-wanted V-Belts—Plus 5 actually useful service helps—That's your Gilmer Assortment #355

This money-making V-Belt Department is only one arm wide. Right at the end of your fingertips it puts all the Gilmer V-Belt sizes you need most, according to sales and service records. You can't handle a wider range of the V-Belt volume, in smaller space, at less investment.

The start-stop speeds and small pulleys of refrigerator service need all the great Gilmer V-Belt features: anti-slip grip, smooth pull, close-controlled stretch, extra-duty cords and jackets. In Gilmer Assortment #355 you get belts

like that to make good on the job—and besides you get all these...

- 8-hook, sturdy metal rack for store, shop or truck.
- Patented Gilmer Handimeter for correct, fast belt measuring.
- Gilmer V-Belt Catalog of information—"America's Belt Bible."
- Practical Gilmer inventory card to save stock-keeping work.
- Window Display Card that tells 'em to Buy it from you Now.



Buy through your Gilmer Distributor

L. H. GILMER COMPANY

Tacony, Philadelphia 35, Pa.
Division of United States Rubber Company

ABOUT PEOPLE . . .

Continued from page 42

other field problems. Vollman's experience has been with Pevely Dairy Co., Rural Electrification Administration (in the design and construction of frozen food storage plants),



Vollman



Barmeier

Universal Cooler Div., and most recently with a refrigeration and air conditioning distributor. Barmeier was in the railroad refrigeration, first with Missouri Pacific and later with New York Central. He was a refrigeration test engineer for the Navy Dept. at Pearl Harbor and a transport refrigeration engineer for the Army Transportation Corps.

Daniel C. Sweeney of Springfield, Mass., has joined the sales force of Emil Steinhurst & Sons, Inc. He will act as sales representative in the distribution of Steinhurst freezers and milk coolers throughout Massachusetts, Maine, Vermont and New Hampshire. Sweeney was formerly consulting engineer with Indian Motorcycle Co.



Lester U. Larkin, a pioneer in the commercial refrigeration field and one of the founders of Larkin Refrigerating Corp., an early Atlanta, Ga., manufacturer of finned coils, died May 12 in Ingalls Memorial Hospital, Harvey, Ill. He was 58 years old. Larkin was active in the "patent pool" program on commercial refrigeration coils in the early 1930's, and later was associated with the LUL Corp. and Whiting Corp. His wife and six children survive.

Norman Maxwell Dunning has joined the sales force of Remco, Inc., to represent that firm's products in eastern Michigan, Ohio, West Virginia, western Pennsylvania, and eastern Canada. Prior to joining Remco, "Max" Dunning had been representing Superior Valve & Fittings Co. in that same territory. Other companies which he will represent under his new arrangement will include Halstead & Mitchell and Madison Products Co.



A. O. Vogel has been elected a vice president of Vilter Mfg. Co., and his new duties will be to supervise the home office sales department, branch sales offices, and sales relations and transactions between the company, its distributors, and its customers. Vogel has been associated with Vilter in various capacities for the past 26 years, with the exception

Specify
MARLEY NOZZLES

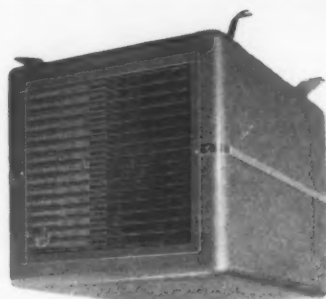


For Dependable Service
Marley patented Spray NOZZLES are used by industries where efficiency and economy are required.

Write today for your Copy of the Marley Spray Nozzle Bulletins.



THE MARLEY CO., INC.
KANSAS CITY 15, KANSAS



COMF-E-FEX
Ceiling Model
¾-1-2-3 Ton Sizes

HURRY . . . HURRY . . . HURRY

The reception accorded by the industry to these new remote type comfort coolers has been amazing. Our initial runs disappeared like hotcakes. There is still time to get your share of the profits in selling these fast moving KRACK Twins by acting fast. Write today. ORDER NOW.

KRACK Bulletin 7149—Yours for the asking.



BREEZ-E-FEX
Console Model
¾-1-1½ Ton Sizes

REFRIGERATION APPLIANCES, Inc.

923 West Lake Street,
Chicago, Illinois.

Manufacturers of Refrigeration and Air Conditioning Lowside Equipment

UNIT COOLERS
COMFORT COOLERS

GRAVITY COILS
AIR CONDITIONING UNITS AND COILS

FREEZING UNITS
AIR CONDITIONING UNITS AND COILS

DISPLAY - RITE SERVE - RITE SELL



WITH FREEZ - RITE

The outstanding open display cabinet that sells on sight. Moderate price. Superb quality. Sub zero temperature. Capacity 480 standard packages. Many exclusive features.

Choice distributor territories still available!

BAILEY & PERKINS CO.

2869 East Grand Blvd.
DETROIT 2, MICH.

of the war years. He is a director of the Air Conditioning and Refrigerating Machinery Association.

Jerry Hileman, factory representative of Koch Refrigerators, has been assigned additional territory by that company. From his headquarters in Cincinnati, he will cover the states of Ohio, Kentucky, and West Virginia. Hileman, who represented Koch in 10 southeastern states prior to the war, rejoined the organization several months ago. His experience in the industry dates back to 1931.



Harry Quinn has been appointed sales manager of the air conditioning division of Refrigeration Engineering, Inc., Los Angeles. Active in the commercial refrigeration and air con-

ditioning field since 1925, Quinn most recently had served as sales manager of the eastern division of Drayer-Hanson, Inc.

C. G. "Charley" Walter has been appointed manufacturer's representative in the southwestern states for Curtis Refrigerating Machine Div., Curtis Mfg. Co. Walter has been actively engaged in the commercial refrigeration and air conditioning business in southern California for the past 17 years. He will make his headquarters in Hollywood, Calif. Curtis has announced that a warehouse stock of most of its equipment will be carried in Los Angeles.



Lin J. Krause, owner and operator of the newly formed L. J. Krause Co., Minneapolis, Minn., has been appointed to represent Penn Electric Switch Co. in the Minneapolis district. This territory includes Minnesota, North and South Dakota, and western Wisconsin. Krause has had considerable experience in the control field, formerly having been market supervisor of the register division of Minneapolis-Honeywell Regulator Co. Previously he had served as assistant manager of that company's refrigeration division.



Soldering Doesn't Cost Me A Cent



"Prest-O-Lite" 5-in-1 Outfit . . . \$22.50

Since I Changed to This Outfit

Here's the way I figure it. I used to pump, prime, and generate before I could start work. Now I just turn a valve and flick a lighter. I get full heat instantly and save 5 to 10 minutes every time I light up. That's worth money . . . enough to work my new "Prest-O-Lite" Outfit for 54 minutes on an average job! By the end of a day, time saved this way has paid for all the "Prest-O-Lite" Acetylene I've burned.

What's more, my 5-in-1 Outfit handles easily and always gives me the exact flame and heat I want. So jobs go faster, too. I figure this extra time saved pays for my solder and flux. This way, soldering doesn't cost me a cent!

Ask your Jobber or write for more details. The Linde Air Products Company, 30 East 42nd Street, New York 17, N. Y. In Canada: Dominion Oxygen Company, Limited, Toronto.

"Prest-O-Lite" is a registered trade-mark of a Unit of Union Carbide and Carbon Corporation.

In a consolidation of the company's southeast sales territory, **George H. Roberts** has been appointed southeast division manager for Bonney Forge & Tool Works. Roberts, who has been active for several years as a sales representative in the Atlanta district, will be assisted by **W. J. Brown**, covering the southern section, and **Ken Thorp**, covering the northern section of the territory.

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

Order from your local Jobber

Going Places!

NIBCO adapters — wrot from tubes — are setting the pace in the industry because they help speed the job and insure quality copper tube installations. By an exclusive process NIBCO adapters are formed from straight sections of 85% Red Brass pipe — not machined from bar stock. They provide exceptional corrosion resistance; strength; tough, perfectly formed threads; husky wrench hexes. Minimum time is required to make the solder joint because little heat reaches the threaded section. Low in cost, high in quality NIBCO 85% Red Brass Wrot adapters are perfect team mates for NIBCO Wrot Copper fittings. **Write now for Catalog F** containing complete information for specifying and ordering the newest and best fittings and valves for copper tube installations. You'll profit by standardizing on NIBCO fittings.



Range of 1/4" to 2" in straight sizes and many reducing sizes are available.

- | | |
|---|--|
| 1
Made from tube | 7
Thickness of cup approximately equal to that of the tube, making soldering quicker, more foolproof |
| 2
Entire fitting wrot or forged | 8
Cup extended away from threads. Comparatively little heat transferred into threaded section |
| 3
85% Red Brass pipe | 9
Low initial cost |
| 4
Perfectly formed threads | 10
Range of sizes — 1/4" to 2" |
| 5
Husky wrench hexes | |
| 6
Manufactured to A.S.A. standards throughout | |

NIBCO ADAPTERS Wrot From Tubes

NORTHERN INDIANA BRASS CO., 714 Plum Street, Elkhart, Indiana
and AIR CONDITIONING • JULY, 1949

PLAYSAFE

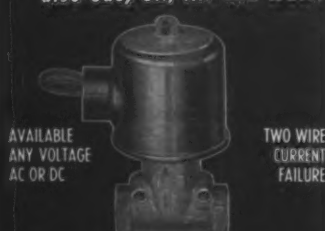
USE CHICAGO SEALS and VALVE PLATES



Only Chicago valve plates have replaceable seats.



New K-20 VALVE for REFRIGERANTS also Gas, Oil, Air and Water



Wide range of applications. Silent operation. Packless construction. Body high-grade brass forging, all internal parts bronze or stainless steel.

GENERAL CONTROLS
801 ALLEN AVENUE, GLENDALE 1, CALIF.
Branch Offices and Distributors in Principal Cities

DISPLAY YOUR SERVICE . . .

Continued from page 30

in the corner, a completely enclosed metal chamber for solvent spray cleaning of greasy parts and compressors.

At the front, immediately behind the windows, are a lathe for armature turning, general workbench, and a milling machine for gears and other power parts.

100 "Loaners" Stocked

Passing through another doorway the prospective customer is shown an aluminum enclosed room in which are stored 100 exchange motors and condensing units kept on hand for "loan-out use" to customers whose units are being repaired.

All servicemen wear long white shop coats, lettered in blue on the back with the company's name. Combined with the scrupulous neatness of the shop, these uniforms create a fine impression of the firm's service work, according to Mr. Sears.

"We even take women on tour of the shop," he explains, "since each is always impressed with our house-keeping and ready to talk about it to friends."

Replacement Policy Pays

Establishment of this handsome shop, plus the huge inventory of exchange motors and condensers, has won Sears Appliance Co. a heavy volume of refrigeration service work since its opening. Among the most active is the contract for maintaining all refrigeration in Safeway Stores, largest retail food chain in Colorado, including all those units in Denver itself. This contract was won by the Arvada firm strictly on its efficiency and appearance, according to Sears.

A crew of three outside servicemen and one shop man handle the service department, while Sears and one full-time commercial salesman take care of merchandising operations. The emphasis is on fast, reliable service no matter how remote the location, so that small crossroads general stores out in the country as well as large supermarkets nearby can depend on quick repairs when needed.

No single factor has helped to build up volume more than the exchange inventory, Sears reports. "We carry

plenty of motors and complete condensing units for replacing any power unit in any type of commercial or domestic refrigerator," he points out.

"Instead of wasting long hours on repairs at the site, we install a new motor or condensing unit, and repair the parts in the shop without the pressure of time limitations."

The lathe, punch press, and other power tools make it possible for Sears Appliance Co. to handle most motor repairs on the premises. In this way the exchange motor stock is constantly rotated through the territory.

Displaying the service shop to homeowners, farmers, commercial customers not only builds up a lot of equipment sales, but likewise service work. Thus the policy of "selling service first" is helping this 2½-year-old organization to gear up effectively for tighter competition ahead.

BOOK REVIEW

Title: Refrigeration and Air Conditioning.

Author: Richard C. Jordan, professor and assistant chairman of the department of mechanical engineering, University of Minnesota, and Gayle B. Priester, air conditioning engineer for Consolidated Gas Electric Light & Power Co., Baltimore, Md.

Publisher: Prentice-Hall, Inc., New York City.

Price: \$8.00.

A comprehensive compilation of reference data covering the entire field of modern refrigeration and air conditioning. Combination of well-explained theory and clear introductory description make this book usable by students and practicing refrigeration engineers alike.

Thoroughly and concisely covers all basic theory underlying refrigeration engineering and applies this theory to specific equipment now in use. Covers technical design of all types of industrial, commercial, and domestic refrigerating and air conditioning systems. Theory, application, and equipment are segregated into separate sections.

Fully illustrated. Problems, answers, line drawings, photographs, charts, graphs, tables, footnotes, and bibliographies accompany the text. Various charts of refrigerants are contained in a pocket in the back of the book. The appendix includes tables of properties of many of the common refrigerants as well as an abundance of auxiliary data. 512 pages.

BRUNNER
SINCE 1906

REFRIGERATION helps you serve better



...a size and type for every purpose

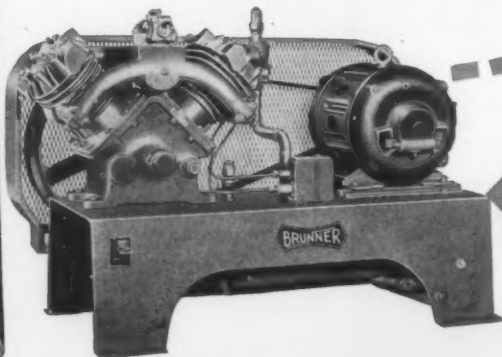
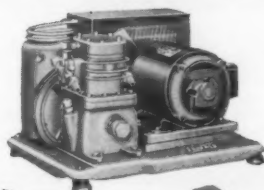
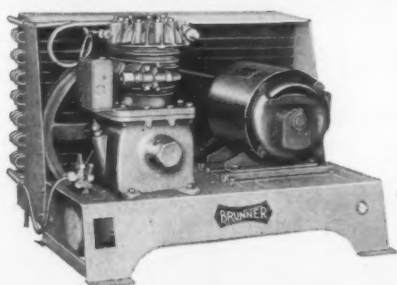
STANDARDIZE on Brunner Condensing Units. Strengthen your sales and service advantages by having available *customer accepted* units in sizes and types fitted to every refrigeration job.

Equipment manufacturers, air conditioning engineers and contractors, general refrigeration engineers and service companies can profit more when backed by a source of supply with ample, self-controlled production facilities.

Brunner Condensing Units are continuously advertised to the "user" trades and industries. They are known by their service records...preferred for their operating efficiency, economy and long life.

BRUNNER MANUFACTURING CO.
Utica 1, New York, U. S. A.

- 22 Brunner branch office representatives who really know refrigeration are available whenever you say the word. We sincerely believe a meeting with one of these men would prove useful and well worth your time.



**REFRIGERATION
CONDENSING UNITS**
...a size and type
for every purpose

BRUNNER
SINCE 1906

AIR AND WATER COOLED MODELS
1/4 HP. TO 30 HP.



Over the COUNTER

How to Reduce "Uncollectables"

UNDER normal conditions a small amount of business is usually charged off each year as uncollected accounts. This amount should be small, not more than $\frac{1}{2}$ or 1% of sales, never over $1\frac{1}{2}$ % at the extreme.

Uncollectable accounts cut deeply into business profits. Such losses are directly against profits. The loss of \$100 in this column usually means \$500 of good new business is required to return this \$100. Of course, actually, it is never returned, but when losses are kept at a low percentage figure they can be entirely

justified as sales promotional expense used for expansion of the business.

The habitual or professional dead-beat usually only enjoys a very short period of so-called success in such operations in a given area. While he is cheating a few victims he quickly becomes notorious and is soon recognized by business people by his unethical practices.

The great danger at the present time comes from inflationary prices, people using poor judgment in seeking credit, and overextending their ability to pay for the things they buy.

Because of this fact, customers who over a considerable period of time have made a good payment record suddenly slow up and find themselves unable to pay their bills. This is the reason careful study must be made, with the customer's credit position being checked and analyzed.

When a customer's account becomes seriously delinquent, justifying refusal of further credit, the ultimate losses resulting may far exceed the actual amount represented by the uncollectable account. In almost every case such customers refuse to come back to you and pay cash in advance on future purchases. Instead, they take their business elsewhere, continuing to buy if possible on a credit basis from someone else who



is unaware of the delinquent accounts already existing.

So they go from one business house to another as credit is shut off. As their lists of delinquent accounts grow, the prospects for ultimate payment of any of these accounts become increasingly doubtful. Therefore, don't take on new accounts offered until you have investigated the paying record with others who have extended the customer credit.

Collection policies should be established which provide for contact with a customer as soon as possible after the regular term period for payment of the account has passed. Often an early contact with a customer not meeting the regular payment terms makes it possible to work out a program to keep the account within the regular credit limits, thus continuing to sell further merchandise while payment on the previous purchase is be-

AN IMPORTANT LINK In America's Distribution System— YOUR

REWA WHOLESALER

The smooth functioning of the distribution system which keeps products and services flowing to you doesn't happen—it is carefully built and maintained by people like your REWA wholesaler. He is an important link in America's distribution system.

By knowing your needs and the needs of all his customers through intimate personal contact, he helps to eliminate the bottlenecks and delays of poor distribution. He is a big contributor to the efficient operation of your own business.

**When You Buy From Your REWA Wholesaler
You Buy With Confidence**

**180 MEMBERS
MAINTAINING
OVER 300
CONVENIENT
OUTLETS**

BUY FROM A



MEMBER

H. S. McCloud, Executive Secretary

920 East McMillan St., Cincinnati 6, Ohio

ing liquidated.

Go to a customer whose account remains unpaid at the end of the regular payment period. Find out, if possible, why the account has not been paid. If the reason is shortage of funds to cover the account, attempt to work out a payment plan for installments each week on the old account while you continue to extend a corresponding amount of credit on new business.

Help the customer, if possible, work out his own credit problems, as this may in turn enable you to get your money faster. Plans of this nature are workable, often resulting in saving a sick credit situation. If the situation happens to be caused by a special or unusual temporary condition, in most cases a little planning will bridge the emergency and restore the account to a healthy, satisfactory condition.

Plan to give the present credit situation a little more direct attention than has been necessary in the last few years. Work closely with all accounts headed towards trouble. Use care in extending credit to new accounts. Work out paying arrangements with

past due accounts on a basis which will enable you to continue along with the accounts on a credit basis.

These new activities mean more time and money spent for collections, but the investment is sound and will be fully justified if it results in bringing the money in while keeping the customer as a source of future business.

REFRIGERATION SALES TO HANDLE CARRIER UNITS

Refrigeration Sales Corp., Cleveland refrigeration and air conditioning contracting firm headed by Warren W. Farr, has been appointed distributor for Carrier self-contained air conditioning units in the Greater Cleveland trading area.

NEW DETROIT MEMBER

A new member of the Refrigeration Contractors Association of Detroit is L & R Refrigeration Service, 2627 Norwalk St., Hamtramck 12. Leo Rutkowski represents the firm in the association.

Gloekler



MODEL 2FGF
25 CUBIC FOOT



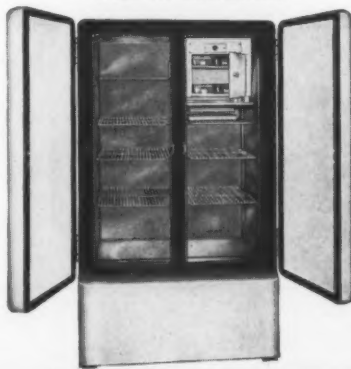
THE LINE THAT SELLS ON SIGHT

GLOEKLER Refrigerators, both reach in and walk in, for commercial and institutional use win the instant favor of the most discriminating buyers.

The workmanship and materials which go into a GLOEKLER make it a glistening jewel of production achievement.

There are still a few choice territories open for aggressive manufacturers agents.

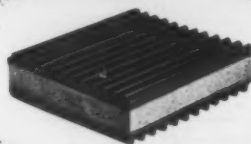
Write for information.



4000 W. 20th St.

Erie, Pa.

Control Vibration and Noise in Refrigerating and Air Conditioning Equipment



With Efficient,
Low-Cost, Easy-to-Install
Korfund Elasto-Rib

Elasto-Rib stops transmission of vibration and noise effectively, because it utilizes the elastic and damping properties of both cork and rubber.

Elasto-Rib has a core of high-grade cork plate, bonded between two layers of deep grooved, oil resistant synthetic rubber.

It is fast and easy to install. For most applications, no bolts, lag screws or cement are needed, and no drilling or other preparation of the floor is required. Simply place the Elasto-Rib under the equipment to be isolated, and the job is done! It can be cemented in place, if necessary, with a quick-acting high strength cement, which we supply.

Elasto-Rib is 1" thick, stocked in sheets up to 24" x 36", and is sawed or cut to size as needed. It has a loading range of 750 to 5,000 lbs. per square foot. A good average loading is 20 lbs. per square inch (3,000 lbs. per square foot), which makes it very inexpensive.

New, illustrated bulletin gives facts and figures you will find useful. Ask for ER-701, and free sample.



THE KORFUND CO., INC.

48-53-F 32nd Place
Long Island City 1, N. Y.



Better Results ...Better Business

**Everybody benefits when compressors
are lubricated with Texaco Capella Oils**

WHEN service engineers lubricate refrigerating compressors with *Texaco Capella Oils*, the compressors give longer, more trouble-free service... customers are better satisfied. This builds business and good will for service-men, dealers and distributors who handle *Texaco Capella Oils*.

Texaco Capella Oils come in suitable viscosities to assure peak performance from compressors of every size and type. They are highly refined, moisture-free, and do not react with refrigerants. They have low pour tests and strongly resist gumming and sludging. You can depend on them to keep compressors and coils *clean*.

Leading compressor manufacturers approve the use of *Texaco Capella Oils*, and you can get them in handy 1-qt., 1-gal. and 5-gal. containers sealed to maintain their purity.

You'll do *better* business with *Texaco Capella Oils*! The Texas Company, 135 East 42nd Street, New York 17, N. Y.

FREE LUBRICATION GUIDE—Latest edition. Lists makes and types of compressors and refrigerants used in 63 Electric Refrigerating Units and 31 Air Conditioning Units. Shows recommended grade of *Texaco Capella Oil* for each. Use guide as wall chart, or bind into service manual.



TEXACO Capella Oils

FOR ALL AIR CONDITIONING AND REFRIGERATING EQUIPMENT



THE PRACTICAL Refrigeration Applications MANUAL...by Harold Smith

THE Practical Refrigeration Applications Manual extends a helping hand to those refrigeration and air conditioning men who occasionally encounter field engineering problems too tough for them to handle. Space limitations make it impossible to give complete detailed information covering each step necessary for the installation or erection of refrigeration equipment, insulation or fixtures. It is necessary to assume that those readers who request assistance with their problems are familiar with these basic fundamentals. If they are not, it is suggested that they seek this advice from their sources of supply when purchasing the materials which they intend to use on the job. Most suppliers are equipped to furnish such information. Readers are urged to submit their problems to this department. Each letter of inquiry will be answered personally by the author. The most interesting ones will be published in these columns. All problems should be clearly and completely stated and addressed to: COMMERCIAL REFRIGERATION AND AIR CONDITIONING, Manual Dept., 1240 Ontario St., Cleveland 13, Ohio.

PROBLEM

"I HAVE a customer who does not believe me so I am asking you to give me an analysis of the following conditions. I want factual information, of course, not biased in my favor if I am wrong.

"The problem:—A butcher store walk-in box having inside measurements of 8 feet x 10 feet x 7 feet 2 inches, with 4-inch rock wool insulation, tar paper in and out, Masonite in and out on sides and ceiling, wood floor, and a store temperature of 90 F. in summer.

"At present this walk-in is being run with a $\frac{3}{4}$ hp air cooled condensing unit with a blower coil rated at 11,000 Btu at 15 degrees t.d., using Freon 12 gas.

"The customer tells me that last year the machine would cut out on the high pressure control at 190 pounds. He had the machine serviced several times with no help, therefore I assume there was no air in the system.

"I claim the reason for this is that the coil is too large and out of balance with the condensing unit.

"Now I find there is a leak in the coil and I don't believe it is worth fixing, so I offered to replace the coil with one having a capacity of 8300 Btu at 16 degrees t.d.

"The customer would like a box temperature of 34 to 36 F.

"The questions are:

"1. Is the $\frac{3}{4}$ hp unit large enough to do the job?

"2. Is the coil I am offering better than the one now in use?

"3. What capacity condensing unit and coil would be correct for this box?

"Thanking you in advance for the answers to this problem."—Clifford Bittner, Avon Refrigeration Co., Neptune City, Avon, N. J.

SOLUTION

IN ANSWER to your problem, if this cooler is a well constructed commercial box and in good condition we would estimate the refrigeration load at 8500 Btu per hour maximum on an 18-hour operation during 90 F weather.

The desired box temperature is 35 F, suggesting a condensing unit operated at an average refrigerant temperature of 20 F, or 15-degree t.d.

Unfortunately, condensing units are rated differently per horse-power by the different manufacturers. If the unit used on this job has a capacity from 7500 to 8500 Btu per hour at 20 F refrigerant temperature, Freon

refrigerant, it should handle the work satisfactorily.

The coil should also produce 8500 Btu per hour at a 15-degree t.d. rating, or 567 Btu per 1-degree t.d. Your coil with 8300 Btu comes close to measuring up to the capacity needed on this job, as it provides 519 Btu per 1-degree t.d. or 7785 Btu on a 15-degree t.d.

By dropping the average refrigerant temperature from 20 F to about 18 F this would raise the coil capacity to approximately 8800 Btu on a 17-degree t.d. However, the $\frac{3}{4}$ hp condensing unit might then prove to be short of the necessary capacity to carry the load.

My personal opinion would be that a coil rated at around 9000 Btu at a 15-degree t.d. would be most suitable for this installation.

It is quite probable your condensing unit has a lower rated capacity than is called for on this installation. This may be the result of the standard capacity of the machine as built by the manufacturer or it may be a situation where the condensing unit under normal conditions would handle the work satisfactorily but its mechanical condition may be poor, reducing its actual capacity.

You mention that the machine cut out last summer on the high pressure control at 190 pounds. This suggests that the machine was located in a very hot place with little or no air circulation, or that the condenser was extremely dirty, cutting the efficiency. The system might also be carrying too heavy a charge of refrigerant or be loaded with air.

With reasonably good air circulation, the head pressure should not exceed 160 pounds during 90 F weather unless some condition exists to create an abnormally high pressure in the system.

At high condensing temperatures and pressures, the condensing unit capacity is reduced below its normal rated capacity. Most ratings are based on 90 F air temperature, but any change above that point or excessively high head pressures rapidly reduces the efficiency of the condensing unit.

We would recommend on this job a condensing unit using Freon with 8000 to 8500 Btu capacity with 90 F air and 20 F refrigerant temperature. This may be a $\frac{3}{4}$ hp unit in some manufacturers' lines, but more normally it would be around 1 hp. A coil with approximately 9000 Btu at 15 degrees t.d. also would be recommended.

You may find a direct cause for the existing trouble by carefully checking and studying the conditions involved in this installation, enabling you to correct the situation to get the present equipment on an efficient basis to handle the job. A 1-hp condensing unit without question would offer considerable improvement in efficiency cutting down running time and overall cost of operation.



Diagnosis!

YOUR SERVICE MAN must be equipped to diagnose refrigeration troubles quickly and expertly.

Like the skilled physician he needs the finest and most modern instruments to analyze symptoms and prescribe treatment.

The ASHCROFT Refrigeration Test Gauge is an indispensable tool in the testing and servicing of mechanical refrigerators. With multiple temperature equivalent scales in different colors for Freon 12, Sulphur Dioxide, and Methyl Chloride, it is the most versatile tool in the serviceman's kit—adaptable to all systems.

ASHCROFT'S unmatched research, engineering and manufacturing facilities assure advanced design, permanent accuracy and finest quality always.

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Makers of Ashcroft Gauges, Hancock Valves, Consolidated Safety and Relief Valves and 'American' Industrial Instruments. Builders of 'Shaw-Box' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties.

AETNA SUPPLY MOVES TO NEW QUARTERS

Aetna Supply Co., New York City wholesaler of refrigeration parts and supplies, has moved to new and larger quarters at 310 East 138 St., near Third Ave., just a few blocks away from its old location. The occasion was celebrated by an "open house" for the firm's customers, suppliers, and friends.

LEWIS A. WALLACE JOINS LANGSENKAMP BRANCH

Lewis A. Wallace, formerly of Detroit, Mich., and San Angelo, Tex., has been named assistant manager of the South Bend, Ind., branch of F. H. Langsenkamp Co., refrigeration parts and supplies wholesaler with headquarters in Indianapolis, Ind.

HOLD GOLFING OUTING

Second annual golf outing and dinner of the Refrigeration and Air Conditioning Contractors Association of Chicago will be held July 19 at Midlothian Country Club, Midlothian, Ill. Wholesalers and manufacturers' representatives in the Chicago area are invited to participate.

GEO. O. DONNOVAN DIES; WITH KOCH SINCE 1901

One of the pioneers in the commercial refrigerator industry died May 15 at the age of 65, of a heart attack. He was George O. Donovan, master carpenter with Koch Refrigerators, Kansas City.

Donnovan came to Koch immediately after leaving school, at the age of 16. That was in 1901, and he spent his entire career of nearly half a century with the same organization.

He was superintendent of the woodworking plant at the time of his death.

Donnovan's working lifetime spanned three eras in the industry—that of the block ice counters and coolers in production at the time he joined Koch, that of cracked-ice-and-salt cases, and that of the modern mechanically refrigerated equipment which he helped to develop.

NEW COMMERCIAL FIRM

New firm in the commercial refrigeration field is Commercial Refrigeration, Inc., Huntington, W. Va., which has recently been chartered by the secretary of state's office.



THE NEW FEDERAL Triple Deck MERCHANDISER

For Single or Continuous Display of Dairy Products, Produce or Meats.

Small, Medium or Large Stores — all are prospects for this new Federal Triple Deck Merchandiser

★ Federal SELF-SERVE

FEDERAL MODEL 3307, 7 FT. LONG
Ends removable for endless display

Ideal for the merchant who wants to sell more perishables per square foot of floor space. Thorough Refrigeration . . . Fluorescent Lighting . . . made with easy to reach shelves . . . clad with gleaming white porcelain.

This is another Federal Case, typical of the rapidly expanding Federal line.

Some desirable territories available on our complete line . . . Write for details.

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soft copper
tube**

**...a trouble-saving
product by REVERE**

Revere DRYSEAL Copper Refrigeration Tube is uniformly soft...always easy to bend, easy to flare. That's why DRYSEAL assures easy installation!

The interior of DRYSEAL Tube is kept *permanently clean and dry* with a new mechanical end seal. Moreover, that seal has the same diameter as the tube, will pass through any opening large enough for the tube itself.

DRYSEAL gives you new, more economi-

cal standards... comes in a bright new package to keep it clean and attractive, readily identifiable in stock. Sized $\frac{1}{8}$ " to $\frac{3}{4}$ " O.D., DRYSEAL is packed two 50-foot coils to a package.

Next time you buy refrigeration tube, contact your REVERE Distributor. He has DRYSEAL... the pliable soft, easy-to-bend copper refrigeration tube that assures you top quality in every length you buy. DRYSEAL always means an easier job for *you*.



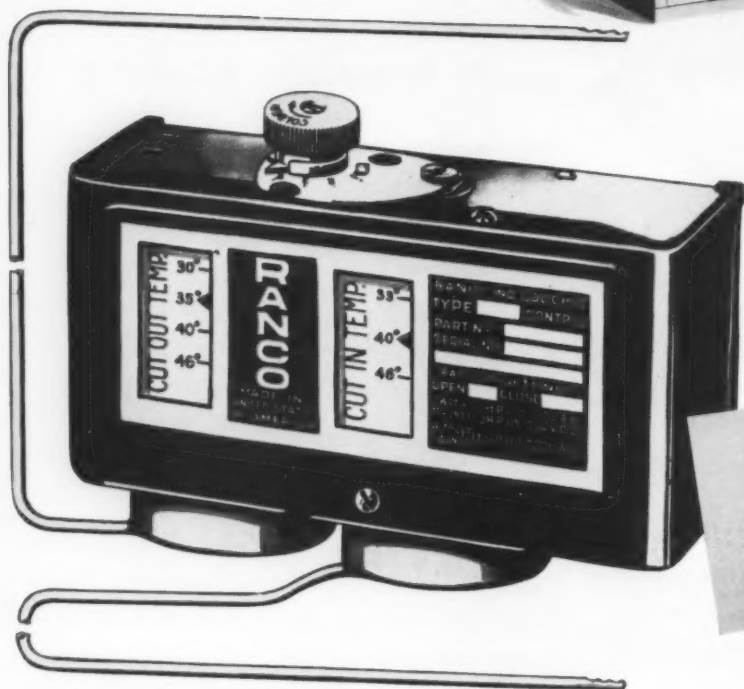
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defrosting
with**

**TYPE O-91
"ALL-WEATHER"
CONTROL**

Completely automatic defrosting—regardless of weather, load conditions or cold location of the compressor—helps maintain uniform relative humidity with this Ranco "All-Weather" Replacement Control. The control cuts in only after the coil has been defrosted and cuts out only when a predetermined temperature has been reached in the fixture. Adaptable to either natural or forced convection units in walk-in coolers, display cases, florist boxes and similar temperature range fixtures. Eliminate expensive call-backs . . . increase your profits on every service job. Ask your Ranco wholesaler to show you the complete, precision-built line of Ranco Replacement Controls.

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- dependability
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- less stock to carry
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COLUMBUS 1, OHIO



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... more than 20,000,000 controls now in use

Here's how

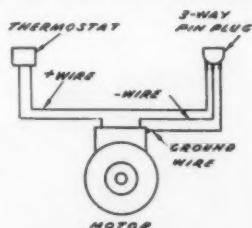
Edited by
Warren W. Farr

See That Your Jobs Are on the Level

One of the little points that many refrigeration service men tend to overlook, but which goes a long way toward convincing customers that they're having their work done by a thoughtful workman, is seeing that the refrigerator is "on the level" before they leave the job.

The simplest way to level a refrigerator is to adjust the feet until the door remains stationary after being opened. The refrigerator should rest solidly on the floor. Most of the refrigerators built today are assembled with adjustable feet, a feature which simplifies the leveling procedure.

*I do it
this way...*



IF EVER you are called upon to hook up a refrigerator to a 3-wire polarized plug, this diagram indicates the proper way to do it. The positive wire runs directly from the pin plug to the thermostat. The negative wire connects the plug to the motor terminal box and the terminal box to the thermostat. The ground wire running from the plug is attached to the terminal box by means of a hole drilled through the box itself.

Isidore Greenberg,
Brooklyn, N. Y.

WANT TO EARN \$5?



You don't have to be a writer or a literary genius! Just jot down some of the shortcuts you've developed in your maintenance or installation work and send them to **HERE'S HOW** EDITOR, COMMERCIAL REFRIGERATION AND AIR CONDITIONING. Your \$5 will be paid promptly when your maintenance tip is published in the magazine. Let's hear from you!

Good Proposals Make Selling Easier!

A complete, factual, informative, and attractively presented proposal can do a great deal toward paving the way for the sale of almost any commercial refrigeration or air conditioning installation. Often such a proposal, by creating in the mind of the prospect the impression of business-like operating procedure on the part of the cooling contractor, actually can spell the difference between "sale" and "no sale".

Yes, good proposals definitely make selling easier, and any good proposal should include the following factors:

- A brief letter of transmittal.
- A description of the refrigeration or air conditioning system.
- A bill of material.
- Explanations pertaining to the

method of control, ductwork, plumbing, and wiring, together with specific reference to any unusual items affecting cost.

(e) A simple sketch of the proposed layout.

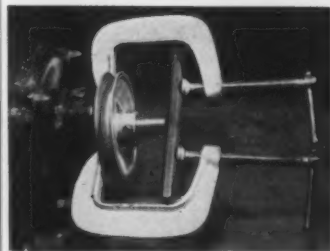
(f) The quotation.

(g) Descriptive literature on the major items of equipment.

In addition to these basic fundamentals, the proposal may be further enhanced, if the contractor desires, by the inclusion of any "institutional" promotion pieces which the contractor may have available describing his organization, its personnel, or its facilities.

Remember, when you submit a proposal you're not just compiling a bunch of facts and figures, you're really doing a selling job—so be sure to do a good one!

*I do it
this way...*



BECAUSE it is difficult to always have the right tool at the right time for the right job, one of the prerequisites of a resourceful serviceman is the ability to improvise and "do with what you have."

Few servicemen, for instance, carry more than one size of wheel pulley. But how many of these men realize that two "C" clamps and a chisel or any bar of steel (see photo) can be adjusted to any pulley size.

M. F. Diettrich
River Grove, Ill.

Keep Your Service Cylinders Clean!

Use of a clean service cylinder can be just as important as the use of a satisfactory refrigerant. A dirty service cylinder will foul the best refrigerant.

Therefore, keep all service cylinders used for charging *exclusively* for this purpose. They should be marked by

*I do it
this way...*

HERE'S how you can save yourself a lot of trouble and your customer a lot of grief and expense when testing the oil level of a noisy compressor. Simply insert a magnetic screwdriver or magnetic rod through the oil filler plug, always being sure to touch the bottom of the crankcase. If upon withdrawing this magnetic testing rod you find particles of metal adhering to it—well, you might as well start rebuilding that compressor or else sell the customer a new one!

Arthur R. Charters,
Westfield, N. J.

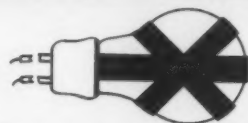
painting or stenciling to show clearly that they are intended for use with clean refrigerant *only*. Cylinders that are used to receive refrigerant from machines should be painted differently than those used in charging.

Do not exchange charging cylinders for those used to receive refrigerant. Once a cylinder is dirty it can not be used for charging without introducing contaminants into a machine.

Points on Installing Low Pressure Systems

1. *Locating and installing the cooling coil* requires careful consideration to make sure that the cooling coil is level and adequately supported, and that sufficient clearance has been provided to give the desired air circulation within the fixture, and through and around the cooling unit itself. Naturally, the location should be such that it will provide minimum interference, both to headroom and products stored within the fixture, and in many cases, some provision has to be made to carry off the condensate.

*I do it
this way...*



WHILE testing fuses with a test lamp on a service call one time, the lamp slipped from my hands and broke on a fuse box just below. I felt the shatter of glass on my face, but very fortunately did not get any glass in my eyes.

Warned by this experience, however, I promptly set about to develop this very simple but effective means of preventing such mishaps in the future. I simply wrapped my test bulb with about five layers of friction tape in a criss-cross fashion as indicated in the sketch, being careful to leave spaces for the light to shine through. This cushions the bulb, making it easier to handle and decidedly less likely to break if dropped. It also will prevent the glass from shattering if the bulb ever should be broken.

Stephen T. Miskovic,
Baltimore, Md.

STOP!

Missing Cooling Unit Profits

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At The Amcoil Story

- Firm distributor policy
- All-copper-welded cooling units
- New—Fair inventory deal
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IT PAYS TO CONSULT
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AN INDISPENSABLE SELLING TOOL FOR ONLY \$5.00

Here's the guide to greater profits for which dealers and their salesmen have been waiting. Here's an indispensable selling tool that points out **WHAT** equipment to sell, **WHERE** and **HOW** to do it. Here's vital information on every piece of air conditioning and commercial refrigeration equipment manufactured and where it is available.

The trade acclaimed our first announcement of the **MARKETING HANDBOOK** with enthusiasm. We say now that it will be even more complete—more informative than originally planned.

The COMMERCIAL REFRIGERATION and AIR CONDITIONING MARKETING HANDBOOK!

There is commercial refrigeration data compiled in the **MARKETING HANDBOOK** that has never before been included between two covers. Think what it means to have at your finger tips one carefully indexed source which covers:

- What equipment is used in 40 potential sales fields.
- The selling techniques of some of the most successful men in the business.
- Data on how, where and why certain equipment can be sold certain types of trade.
- The engineering data that will enable you to figure many jobs with no outside assistance.
- A cross index of (1) which manufacturers make each type of equipment and (2) what equipment is available and who builds it.



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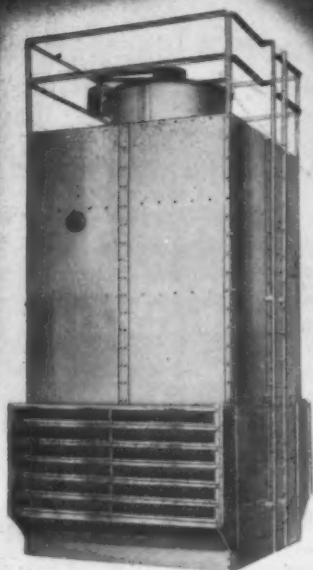
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An "Extra Quality" Tower

... At No Extra Cost



The New Marley VERFLOW sets a new standard in air conditioning and refrigeration Cooling Towers.

Check these "extra quality" features formerly found only on heavy duty, industrial cooling towers that are now available on all Marley wood or steel VERFLOWS at no extra cost to you . . .

✓ Lifetime nail-less filling. ✓ Filling that can be removed and reinstalled in a matter of minutes. ✓ Totally enclosed motors. ✓ Enclosed bearing housings with grease packed bearing. ✓ Marley air-foil section cast aluminum alloy fans. ✓ Special corrosion-resistant paint on metal towers. ✓ Heavy double-sheathed wood casing on wood towers. ✓ Patented, close-centered Marley jet action spray nozzles in balanced distribution system. ✓ Hinged louver frames and removable louvers. ✓ Quickly erected, easily operated with little maintenance time.

These and other "extra quality" features make Marley VERFLOW the best buy on the market. Many special accessories such as Gearreducer drive, handrail and ladder are also available at a small added cost.

Ask your nearest Marley representative to tell you more about the VERFLOW or write for Bulletin V-49.



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YOUR SALES WILL

WHEN YOU SELL

Cool Cool

SNO-BALL

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AIR COOLERS



YES, your sales will grow and grow and GROW.

Here's why -

17 SUPERIOR MODELS! Each one a cooling beauty perfected to the limit.

MARKET COVERAGE! Trailers to mansions, stores of all types and sizes, offices, hotels, courts, filling stations, factories, warehouses. **ONLY SNO-BREZE** can give you such complete coverage with a perfect model and size for every type installation.

TOP EFFICIENCY! Mister, 40 years of air conditioning leadership speaks for itself — but here's **PLUS PROOF OF SNO-BREZE SUPERIORITY.** Just have your customer make the "Heart-of-a-cooler" test and he **TOO** will prove **SNO-BREZE** by far the best!

SNO-BALL YOUR COOLER SALES.

Write for *Sno-Breze literature* and name of closest distributor to-day. Dept. 1-2

Palmer MFG. CORP.
PHOENIX, ARIZONA



TUNNEL COOLERS CUT GRAPE PRECOOLING TIME

Specially designed tunnels which precool grapes to suitable temperatures in one hour will enable West Coast growers to cut the shipping time from harvest to market by from 14 to 24 hours, report W. T. Pentzer and W. R. Barger, plant physiologists of the U. S. Department of Agriculture.

Funds from the Research and Marketing Act have made it possible for Pentzer and Barger to conduct detailed performance tests of two commercial tunnel coolers built in California in the past two years.

The main reason for precooling grapes quickly is to keep them from losing moisture and from developing decay. The current practice is to precool the fruit to as near 45 F as possible after the lugs are packed. The cooling is done either in cold storage rooms or in the refrigerator cars. It requires from 14 to 18 hours and generally delays shipment a full 24 hours. In a period of declining markets, the delay may mean heavy losses to the shipper.

A model tunnel cooler developed by Pentzer and Barger in 1938 has served as basis for the design of the two commercial coolers under study. Recognizing that the quickest way to improve cooling was to expose the fruit to blasts of cold air, they devised a tunnel where this could be done as the unlidded lugs were moved slowly to the lidding machine. Air directed on the open faced lug at a velocity of 600 feet per minute cooled the grapes in an hour.

In one of the commercial coolers tested, ammonia coils in the bunkers maintain air blasts of 25 to 30 F. Fans blow the cold air down on the grapes being moved through the tunnel. After the grapes season, the compressors in this installation can be used to cool storage rooms and the tunnel becomes a bunker for cooling air circulated to the rooms.

OPPORTUNITIES

(Classified Advertising)

POSITION WANTED

Experienced Young Refrigeration and Air Conditioning Engineer can handle position as technical executive assistant medium sized company. Specialty: heat transfer. Box 7149 Commercial Refrigeration.

TESTED!

SURE!

PURE!

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"V-METH-L"
Methyl Chloride

"EXTRA-DRY
ESOTOO"
Liquid Sulfur Dioxide



THERE ARE NONE BETTER

THEY'RE

consistently pure
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50 YEARS OF SERVICE TO INDUSTRY



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AVAILABLE FROM WHOLESALERS COAST TO COAST

THE LATEST BOOK ON REFRIGERATION REPAIR



Pocket size—4¼" x 7½". Limp Binding. 704 pages. \$5.00 each.

Every repair man and owner should have this book at hand for ready reference. Written by Edward R. Magnus, a recognized authority and consulting engineer on refrigeration, the book contains 21 reference tables and 139 line illustrations. Servicing instructions follow a logical pattern in which the problem is presented, the equipment necessary is listed, general instructions follow, and the operation is completed with a short paragraph on precautions to be observed in making the repair.

The Refrigerating Engineering Magazine says: " . . . We recommend the REFRIGERATION SERVICEMAN'S MANUAL to the practical engineer, technician, or student without reservation."

**USED AS A TEXTBOOK IN
18 LARGE REFRIGERATION
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INDEX TO ADVERTISERS

JULY, 1949

Alco Valve Co.	1	Kinetic Chemicals, Inc.	Cover 2
Allen-Bradley Co.	10	Koch Refrigerators	39
Harry Alter Co.	88	Kold-Hold Mfg. Co.	26
American Coils Co.	84	Korlund Co., Inc.	77
Ansul Chemical Co.	12	Kramer Trenton Co.	53
Automatic Products Co.	Cover 3		
Bailey & Perkins Co.	72	Linde Air Products Co.	72
Bell & Gossett Co.	4	Lynch Corp., Par Compressor Div.	7
Black, Sivalis & Brysen Inc.	17		
Brunner Mfg. Co.	75	McCray Refrigerator Co.	5
Century Electric Co.	60	McIntire Connector Co.	54
Chase Brass & Copper Co.	18	Manning, Maxwell & Moore, Inc.	80
Chicago Seal Co.	72	Marley Co., Inc.	71, 86
Curtis Refrigerating Machine Div., Curtis Mfg. Co.	27	Mills Industries, Inc.	13
		Minneapolis-Honeywell Regulator Co.	57
Delavan Mfg. Co.	58	National Lock Co.	69
Detroit Lubricator Co.	9	Northern Indiana Brass Co.	73
Eclipse-Pioneer Div., Bendix Aviation Corp.	50	Palmer Mfg. Corp.	86
Federal Refrigerator Mfg. Co.	80	Peerless of America, Inc.	20
Frigidaire Div., General Motors Corp.	23	Penn Electric Switch Co.	28
General Controls Co.	72		
General Electric Co.	14, 15	Ranco, Inc.	82
General Refrigeration Div., Yates-American Machine Co.	25	Refrigeration Appliances, Inc.	71
L. H. Gilmer Co.	70	Refrigeration Equipment Wholesalers Association	76
Gloekler Refrigerator Co.	77	Remco, Inc.	21
Grand Rapids Brass Co.	46	Revere Copper & Brass Co.	81
		Rotary Seal Co.	66
Handy & Harman	52	Servel, Inc.	63
Heat-X-Changer Co., Inc.	56	Sporlan Valve Co.	16
Henry Valve Co.	6	Sprague Products Co.	62
Highside Chemicals, Inc.	55	Sun Oil Co.	31
		Superior Valve & Fittings Co.	24
International Register Co.	64		
Jamison Cold Storage Door Co.	11	Tecumseh Products Co.	67
Jarrow Products	58	Temprite Products Corp.	2
Johns-Manville Corp.	8	Texas Co.	78
		Tyler Fixture Corp.	68
Kelvinator Div., Nash-Kelvinator Corp.	59	U. S. Rubber Co.	65
Kerotest Mfg. Co.	51	Virginia Smelting Co.	87
		Wagner Electric Co.	22
		Westinghouse Electric Corp.	19
		Wilcox and Follett Co.	88

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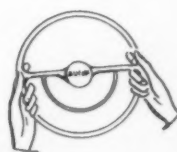
Problem:

Make Liquid Charged
as synonymous with A-P
as A-P is synonymous with Dependable



Solution:

*Have all ads carry this line—
Liquid Charged Means Positive Control
Positive Control Means A-P Liquid Charged
A-P Thermostatic Expansion Valves Nos. 205-206-
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have been Liquid Charged
for the maximum coil
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of authenticated, known buyers and users . . . the wholesalers being the authenticating agents! Thus, under "C.B.P.", Readers and Buyers become synonymous and interchangeable . . . adding the missing sales link for the advertiser.

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